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ABSTRACT

This report presents information regarding the methods and results of a research and program development project dealing with the health of the elderly, with particular attention to chronic illness. The general purposes are to delineate the needs of the aged within the population of a retirement area, to plan and initiate programs of service to satisfy the important needs met through the community endeavors, and to measure the degree of effectiveness of the new or modified programs in reaching their goals. The introductory chapter identifies the problems and objectives of the study. Chapter 2 describes the area in which the study was conducted, its people, and its health resources. Chapters 3 through 7 describe the methods and results of a field investigation of certain health and behavioral characteristics of the population of the county aged 65 and over. Chapter 8 reports supplementary studies of indicated community health services that required more precise knowledge for planning and initiation. Chapter 9 relates in some detail the steps taken to bring research findings to the community and to apply them to program development. Chapter 10 discusses the benefits and problems of research in the local health department in the light of the authors' experience. Finally, chapter 11 summarizes the principal findings. (Author/JA)

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THE AGED and CHRONIC DISEASE

Research in a Local Health Department

by

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with the assistance of

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FOREWORD

This study began with a concept, which appeared valid then and remains so. The difficulties in execution are appreciated now.

Health problems of adults increase with age. The public health importance of these has become more apparent as a larger proportion of the population lives to older ages and as increasing numbers of the aging congregate in retirement communities. For decades the climate and environment of St. Petersburg and other cities in Pinellas County, Florida, has attracted retirees. Currently one fourth of the residents of this county are 65 years of age or over. The well-supported County Health Department for many years has had special programs designed to meet the distinctive needs of mothers, infants, and children but there were no comparable activities directed specifically toward health problems of the aging. Nor was there documented evidence as to the nature and extent of the medical and health needs of the older component of the adult population. These required definitions to guide in the design or selection of new programs. Such were the considerations which stimulated the evolution of a research proposal, the approval of which made possible the studies reported here.

The defining of needs was the first step in this systematic approach. For program planning, a general survey to determine the relative magnitude of major health problems of the aged was considered. There was deliberate decision that any study must satisfy exacting scientific criteria. A probability sample was drawn representative of all individuals resident in the county, 65 years of age and over, and not living in institutions. An original schedule of questions was evolved, pretested, and modified. The purpose was to measure the health problems and needs as known to, or conceived by, the respondents. Resources did not permit a parallel evaluation by medical examination. A major portion of this monograph reports the observations of this study.

Multiple health problems of the aging which could be improved by a public health approach were found. Organization to meet these needs involved a community approach, rather than giving attention to single individuals as in medical practice. Support by governmental funds was contemplated. Problems were encountered, not in designing or selecting appropriate public health programs, but in their effective application. The time was not propitious; federally supported health programs were suspect. Public health has to be opportunistic in its advances, and the time was not ripe for promoting public health programs for the aging. Thus, what could be done in establishing and evaluating new programs was much more modest than had been anticipated.

Collateral observations in this study were of high interest. The effect of a research unit within an operating local health department was observed and reported with candor. There were problems in the relationship of research to daily public health operations. How could it gain acceptance within a service activity while maintaining freedom from "routine" responsibilities which would obstruct the progress of the study?

This monograph is the product of a team activity. Commendation goes to each member, particularly to the co-authors and assisting authors. There are no final answers. Rather it is the beginning of studies which will increasingly occupy the attention of public health workers in the decades ahead.

Albert V. Hardy, M.D.

December, 1965

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CHAPTER 1

The Problem and the Objectives

Practitioners in the fields of medicine and public health as well as the public have become acutely aware in recent years of the increasing importance of problems associated with the chronic illnesses and the health of the aged. This awareness has been reflected in many ways. Medical, biological, psychological, and social research aimed at increased understanding of the etiology, prevention, detection, and control of such conditions as heart diseases, stroke, respiratory diseases, cancer, arthritis and rheumatism, and mental illness continues to interest scientists in expanding numbers. Funds to support these investigations have been made available in increasing amounts by the federal government and private foundations. The voluntary health associations and the U. S. Public Health Service have redoubled their efforts to effectively transfer the knowledge derived from research into programs of services to the people.

Hand in hand with awareness of the degree to which long-term illnesses now account for morbidity and mortality has come a recognition of the growing numbers and proportions of the population who are in late middle age and old age. Chronic illness may have its onset in the earlier ages, but the heaviest toll in sickness and disability comes in the later years. National Health Survey data indicate that 77 percent of the noninstitutional population 65 years of age or older have one or more chronic conditions.

The prevalence of such conditions in conjunction with a relatively high degree of control over the communicable and infectious diseases has led to the reconsideration of the role of public health with respect to chronic illness. Now it is generally recognized that community health agencies must assume responsibility for encouraging and coordinating efforts to prevent long-term illness, to facilitate early detection, and to offer procedures for avoidance of secondary disability in those already afflicted. Acceptance of this role leads to the question, What are the most effective means of accomplishing these tasks? The increasing interest in the answers to this and related questions by leaders in public health and the growing concern of the general public with problems of health in old age underscore the significance of the topic considered in this volume.

Organization of the Report

This report presents information regarding the methods and results of a research and program-development project dealing with the health of the elderly, with particular attention to chronic illness. The general purposes are to delineate the needs of the aged within the population of a retirement area; to plan and initiate programs of service to satisfy the important needs met best through community endeavors; and to measure the degree of effectiveness of the new or modified programs in reaching their goals.

This introductory chapter is concerned with identifying the problem and objectives of the study. Chapter 2 describes the area in which the study was conducted, its people, and its health resources. Chapters 3 through 7 describe the methods and results of a field investigation of certain health and behavioral characteristics of the population of the county aged 65 and over. Chapter 8 reports supplementary studies of indicated community health services that required more precise knowledge for planning and initiation. Chapter 9 relates in some detail the steps taken to bring research findings to the community and to apply them to program development. Chapter 10 discusses the benefits and problems of research in the local health department in the light of our experience. Finally, Chapter 11 summarizes the principal findings and offers as a result of the project some notable implications concerning community health of the aged.

The Study

The health-of-the-aged project, originally known officially as A Comprehensive Public Health Program for the Aged*, was begun in September, 1958. The decision to undertake in the Pinellas County Health Department a long-term project including studies as well as program development and evaluation resulted from several factors. One of these, the relationship of chronic diseases to disability and mortality, has been mentioned. Officials in the Florida State Board of Health and the local health department were impressed with the desirability of an evaluation of the proper role of community health services in the prevention, detection, and control of chronic diseases. It was recognized that public health programs, except those involving general sanitation and communicable disease, have traditionally been directed toward maternal and child health and that to a considerable extent such programs continue to account for much of the total effort. Thus it seemed appropriate to reconsider the allocation of public health resources in a specific community in the light of the changed relative importance of the chronic and disabling conditions as against the acute, infectious, and communicable diseases. It was believed that this reassessment would have implications significant for other communities in the state and nation.

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* Supported in part by Project Grant CH00056-06, U.S. Public Health Service, Bureau of State Services.

For such an endeavor, Pinellas County provided at least two essential elements. It was noted for a remarkable concentration of persons in the later years; and St. Petersburg, its principal city, containing nearly half the population of the county, outranked in 1960 all other cities of 100,000 or more in the United States in the proportion of residents past 65 years of age. Moreover, it had a record of good cooperation by community leaders and citizens in earlier social and health-related studies.

Another factor in the decision to conduct these studies was the leadership provided by the Florida State Board of Health. Earlier the position of coordinator of research and training had been established. Technical assistance and financial support were available to the county health department during the period of preliminary discussions and consultation and in preparation of the application for a grant. Through the coordinator (subsequently director of the Bureau of Research) the State Board of Health has continued its supportive relationship to the project.

The State Board of Health was interested also in establishing the principle of research as an arm of administration in the county health departments, and in practice it was most feasible to begin this process in the larger departments. The director of the Pinellas County Health Department responded enthusiastically to the opportunity to develop administrative research at the local level through the health study of older people.

The specific objectives of the project as originally conceived were:

1. To define and evaluate the health status and health needs of a concentrated, largely transplanted, and mainly retired older population.
2. To determine the extent and adequacy of existing health-care resources and their acceptability to and use by the aged.
3. On the basis of such knowledge of health needs and community health-care resources, to plan and initi-

ate specific activities designed to satisfy better those demonstrated health needs of the aged not being adequately met by current community health and related programs.
4. To evaluate the effectiveness of selected community health programs.
5. To study the social characteristics, social relationships, and social correlates of health and illness in the elderly population of a retirement area.
6. To establish, as a part of the regular program of a local health department, a field center for the continuing study of the health and related needs of the aged and for the development and evaluation of programs to satisfy demonstrated needs.

The attainment of these objectives has been sought through several activities with varying degrees of success. Consideration of these as successive steps or stages in the research design is logical, although in practice several of them were conducted concurrently.

Stage 1. Field studies intended to yield the required information as to the health and social situations of the aged as well as medical, hospital, and related resources available to the people of the county.

Stage 2. Analysis and interpretation of these data in terms of contributions to (a) knowledge of the social and health problems of the aged and (b) planning of needed programs of services.

Stage 3. Construction of detailed plans for community health programs (not necessarily limited to the field of public health) to deal with high-priority problems revealed by the study data.

Stage 4. Development of appropriate community organization to insure understanding of and support for the proposed community health programs.

Stage 5. Initiation of the programs of services.

Stage 6. Evaluation by objective, quantitative means of the degree to which the service programs attained the goals set forth in each instance.

Stage 7. Establishment on a continuing basis of the field-study center.

Stage 8. Preparation of reports of findings and results.

The principal field study was the population survey of 2,544 elderly residents. In addition, a household survey of two special population groups was conducted to obtain measures of need for homemaker and other home-help and home-health services; and a representative sample of residents of nursing homes and homes for the aged was surveyed to determine the type and amount of medical care received by residents and the extent of compliance by the institutions with state regulations for record-keeping. A resume of another survey, an inventory of medical and paramedical personnel, health-care facilities, and health programs is presented in Chapter 2.

The research group planned three programs of services to deal with important health problems disclosed by its studies. The first, glaucoma detection, was inaugurated on a trial basis in 1962 with a glaucoma-screening week during which about 2,000 persons over 40 years of age were tested for increased intraocular pressure with the cooperation of ophthalmologists and voluntary health organizations. The household survey had revealed that about 2.0 percent of the elderly residents of the county had been informed by a physician that they had glaucoma; and 6.1 percent of those examined during the screening week were found to have an intraocular tension that placed them in the suspect range. The goal was the establishment of a regularly scheduled screening clinic.

A second program proposed a hospital-based team, consisting of a physician, a medical social worker, and a public health nurse, to assist attending physicians in arranging for the posthospital care of discharged elderly patients. The team would aid in placement of patients through conferences, social investigation of homes, and use of referral forms. It would also endeavor to coordinate placement in and use of nursing homes and homes for the aged, specialized medical facilities, foster homes, boarding homes, home nursing and other home-health services, and homemaker service. Another important function would be to improve cooperation and communication among hospitals and hospital staffs, nursing homes, private physicians, the county health department, and other health-care agencies.

A third plan, an educational program to improve patient care in nursing homes, was suggested by the discovery in the survey of nursing homes, as in the inspections related to licensure, that there were deficiencies in the amount and quality of care. The proposed program would attempt to correct these shortcomings by means of instruction relating to record-keeping, chronic diseases, geriatrics, nutrition, and nursing procedures. Separate courses of instruction – both formal and informal, and conducted in the institutions and elsewhere – would be directed toward the needs of personnel at the several levels, that is, administrators, registered nurses, licensed practical nurses, aides and orderlies, and kitchen staffs. One phase of this program was begun in 1963 with the inauguration by the Adult Education Division of the county school system of a training course for nurses' aides. A modified version of the plan carried on by the Division of Adult Health and Chronic Illness is described in Chapter 9.

It was necessary to give attention to community organization. The possibility that new programs might encroach on areas already served in some degree by other community agencies and the necessity for cooperative arrangements with these agencies required that public knowledge and acceptance of the project as it proceeded be insured. Moreover, research and program development efforts in public health are of special concern and interest to the medical profession. For these reasons the investigators sought the advice and support of community leaders through the formation of a Community Advisory Committee. This group, established in 1959 and having representatives of all major interests in the county (for example, medicine, education, hospitals, business, law, welfare, employment services, and community planning), provided influential leadership. Although the Community Advisory Committee held monthly meetings during a four-year period, most of its work was accomplished by subcommittees assigned responsibility for delimited program areas.

The need for a critical evaluation of public health programs for the aging was recognized. However, it became apparent that practicability and acceptability were as important as the more sophisticated statistical measures of relative effectiveness.

Study of the social characteristics, social relationships, and social correlates of health and illness in the elderly population was accomplished mainly through analysis and interpretation of data from the household survey.

The final objective was directed toward providing for continuing study of the health and related needs of the aged and for program development. This involved an extension of efforts in community planning for both research and service.

CHAPTER 2

Pinellas County and Its Health Resources

Pinellas County, with a land area of 264 square miles, is the second smallest in the state and is located on the western margin of the peninsular part of Florida (Figure 2.1). It is bounded on the west and south by the Gulf of Mexico, on the east by Tampa Bay, Old Tampa Bay, and Hillsborough County and on the north by Pasco County. The climate is essentially subtropical. The average high and low temperatures during the coldest month, January, are 71.5 degrees and 55.2 degrees, Fahrenheit, and during the warmest month, August, 90.4 degrees and 75.6 degrees. Temperatures below the freezing mark are seldom experienced.

At the time of the 1960 census, there were 374,665 inhabitants and the population density was 1,419.2 persons per square mile. During the prior ten years, the population increased 135 percent, as compared with 79 percent for the state. The county was the fourth most populous in Florida and included 7.6 percent of the state's people.

The population is predominately urban. In 1960 less than a tenth of the people resided in rural districts and nearly half lived within the boundaries of St. Petersburg. More than seven tenths of the residents made their homes inside the city limits of the following municipalities:

Municipality	1960 population*
St. Petersburg	181,298
Clearwater	34,653
Pinellas Park	10,848
Gulfport	9,730
Dunedin	8,444
Tarpon Springs	6,768
St. Petersburg Beach	6,268
Largo	5,302
Madeira Beach	3,943
Treasure Island	3,506

With respect to the age structure of its residents, Pinellas County differs strikingly from the state and the nation because so many people are in the higher ages. One fourth (24.9 percent) of the population was aged 65 and over in 1960, compared with 11.2 percent for Florida and 9.2 percent for the United States. People in the younger age groups

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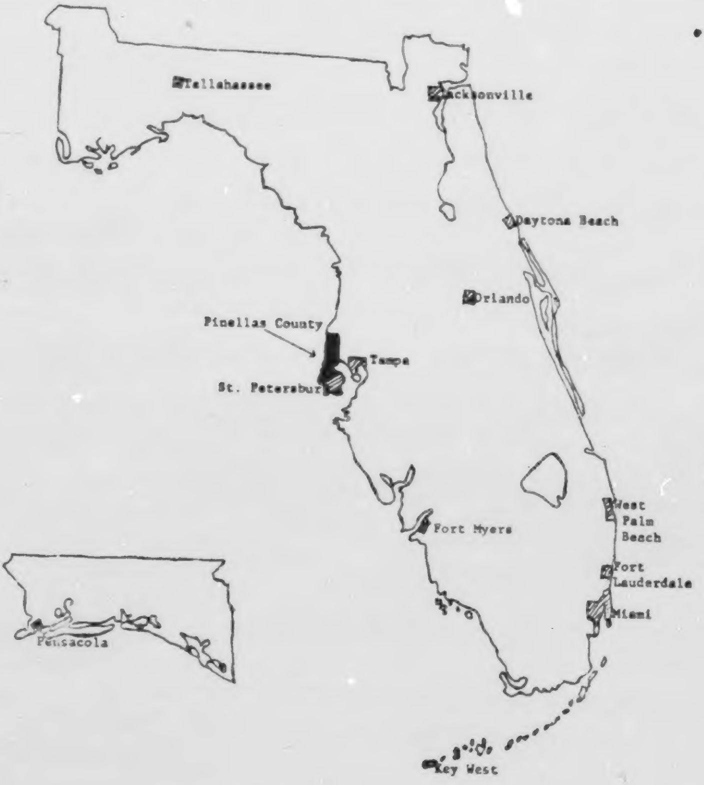
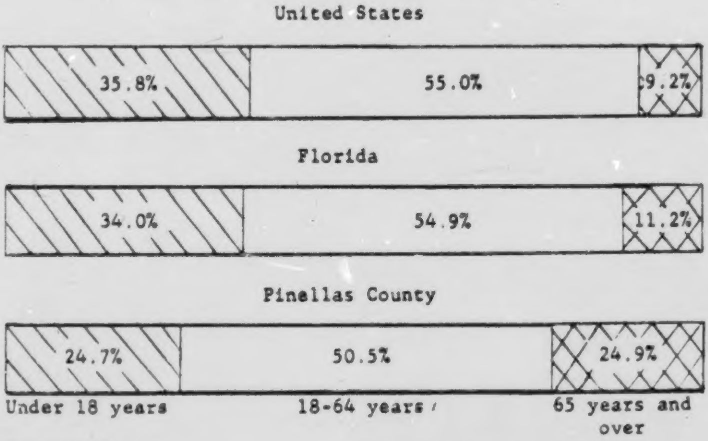
* Source: U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Characteristics, Florida,* Final Report PC(1)-11B, Washington: Government Printing Office, 1961, Table 13.

Figure 2.1. Outline map of Florida showing locations of Pinellas County and principal cities.


Tallahassee
Jacksonville
Daytona Beach
Orlando
Pinellas County
Tampa
St. Petersburg
Fort Myers
West Palm Beach
Fort Lauderdale
Miami
Pensacola
Key West

are correspondingly underrepresented, as can be observed in Figure 2.2. Compared with the United States, the county had only 68.9 percent of its pro-rata share of persons under age 18 and only 91.8 percent of its share of those aged 18 through 64. These differentials in age composition comprise one of the most significant demographic facts about the area studied.

Figure 2.2. Proportions of population in broad age classes, Pinellas County, Florida and the United States, 1960.*



* Source: U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Population Characteristics, U. S. Summary*, Final Report PC(1)-1B, Washington: Government Printing Office, 1961, Table 55, page 163.

Nonwhite persons constitute a much smaller element in the population of the county than of the urban population of Florida. The 1960 census reported that nonwhites made up 8.9 percent of the county's population, while the figure for the urban areas of the state was 18.5.

Despite an unusual concentration of the elderly, the county had only 5,268 persons residing in group quarters* in 1960. These comprised only 1.4 percent of the total population, and by comparison, urban Florida had 2.3 percent and the nation as a whole 2.8 percent in such living arrangements.

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* *Group quarters* is defined by the U. S. Census as follows: "All persons who are not members of households are regarded . . . as living in group quarters. Group quarters are living arrangements for institutional inmates, or for groups containing five or more persons unrelated to the person in charge whose quarters are not divided into housing units. They are found most frequently in institutions, lodging and boarding houses, military or other types of barracks, college dormitories, fraternity and sorority houses, hospitals, homes for nurses, convents, monasteries, residences for clergy, ships and vessels . . ."

The extremely rapid rate of population growth takes on greater significance in terms of the origins of the migrants. Most of them come to the county from other states. The census showed that only a little more than half (54.3 percent) of those who were aged 5 and over in 1960 had lived in Pinellas County in 1955, five years earlier. Those residents who had moved from a different state since 1955 totaled 131,174, or 37.8 percent, of the enumerated population over five years of age; and more than four fifths of those who had moved into the county came from other states. The area is thus the target of large-scale long-distance migration creating a dynamic situation with serious problems associated with increasing the physical and social provisions to satisfy the expanding population.

Personal income of residents of the county is considerably lower than that received by the residents of Florida urban areas and of United States urban areas. The median annual income for families and unrelated individuals in 1960 of $3,563 was equal to 88.4 percent of the comparable figure for the urban districts of Florida and 67.4 percent of that for the urban parts of the nation. It seems likely that this unfavorable income position reflects the effect of the relatively large numbers of elderly persons receiving limited fixed retirement payments.*

Corroborating this impression is the fact that personal income of those in the county is composed to a much smaller extent of wages and to a much greater extent by property income and transfer payments than is true for the state as a whole. Wages and salaries in 1960 accounted for 47.0 percent of personal income for the county compared with 58.6 percent for the state; property income, 25.2 percent for the county, 16.8 percent for the state; and transfer payments, 13.2 percent for the county, 8.5 percent for the state[1].

Pinellas County is set off sharply from most of Florida by its political complexion. In a state that traditionally has been predominantly Democratic in state and local elections, the county in recent years has been an island of Republicanism. According to the official figures, as of April 3, 1960, 45.3 percent of the voters in the county were registered as Republicans, compared with 15.1 percent of those in the state as a whole.* In the presidential election held in November, 1960, county voters cast 63.7 percent of their ballots for the Republican candidates, Nixon and Lodge, while Florida voters who favored those candidates cast 51.1 percent of their ballots for them. Political scientists attribute this deviation to the presence in the county of a majority of conservative, middle-class, older voters who have migrated from the Northeastern and Mid-western states.

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* Detailed information regarding the income position of the aged in the county is presented in Chapter 4.

It is not surprising that the population centers exhibit many readily observable adjustments or accommodations to the needs or presumed needs of its disproportionate number of elderly residents. Among the most obvious and best known of these in St. Petersburg are ramps instead of curbs on streets at downtown intersections and omnipresent benches bordering streets in the business sections. But other accommodations, though not so clearly visible, are probably more important. The city, for example, operates an extensive and varied recreational program directed mainly toward persons in the later years. The construction industry, which is more than twice as important as a source of employment in the county than in the urban parts of the nation, specializes in "retirement villages" and "retirement homes" as well as cooperative apartment buildings advertising in large part to retired persons. Retail trade likewise reflects the impact of the elderly. Harlan's description of St. Petersburg of a decade ago applies equally today:

> There are about two hundred eating places of all types in the city. Many of these depend primarily upon winter visitors, but certain large and popular restaurants and cafeterias are patronized heavily by older people the year around. Some have come to be known as "old folks" restaurants, and a person of less than middle age is rarely seen in them. The prices are generally low in comparison with those in cities in other parts of the country.
>
> . . . The manager of one supermarket speaks of a certain day each month as "Social Security day" due to the unusually large number of older persons among the customers when the monthly benefit payments are received. The city supports many food specialty stores, particularly those dealing in so-called "health foods" and foods for special diets.
>
> Companies dealing in optical goods, hearing aids, orthopedic devices, and surgical supplies are very numerous for a community of this size.

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* As of October 6, 1962, Republicans constituted 17.6 percent of registered voters in the state and 46.3 percent in the county. See Florida, *Biennial Report of the Secretary of State of Florida, January 1, 1961 — December 31, 1962*, pp. 298-299

> Pharmaceutical businesses flourish; one firm boasts "the largest and most complete" stock of drugs in the nation.
>
> Unique businesses in the community are those which purchase old jewelry and diamonds from financially embarrassed widows[3].

Many other examples could be given, however, those mentioned are sufficient to illustrate the marked degree to which the communities in the county have been affected by the peculiar nature of the age structure.

Pinellas County has a relatively broad spectrum of resources for caring for the health of its people. At the same time, the situation with respect to medical and paramedical personnel, health-care and related facilities, and organized programs for meeting particular kinds of needs, reveals a number of serious shortcomings, especially insofar as chronic disease is concerned. In order to provide a basis for discussing the strengths and deficits and for understanding the relative position of the county in the development of services, some general information about these resources is presented; but no effort is made to provide comprehensive data such as that brought together in the inventory of health-care resources conducted as part of this project.

Assessment of the adequacy of the supply of personnel and facilities for maintenance of health and care of the ill is difficult because the national rates are not properly comparable with the county rates. That is, it may be assumed safely on the basis of published data that a population with a fourth of its members past age 65 requires a larger volume of medical and paramedical services than an "average" urbanized area in the nation with 8.8 percent of its population in that age class.

According to the data from the U. S. Public Health Service, in 1962 non-federal physicians (M.D.) in private, hospital, and other practice in Pinellas County amounted to 100 per 100,000 population. The comparable rate for the nation in the same year was 122. According to the official figures, 227 (36.0%) of the 631 non-federal M.D.'s in the county in 1962 were retired or not in practice; 367 (58.1%) were in private practice; and 37 (5.9%) were in hospital or other practice. Nationally, the proportion of non-federal physicians not in practice in that year was 5.2 percent[1].

As of 1960 the Pinellas County Medical Society reported that of its 303 active members, 87, or about 29 percent, were in general practice. The remaining doctors engaged in a wide variety of specialty practices. The largest number (63) were internists, many of whom in effect were practicing general medicine, followed by those practicing general surgery, ophthalmo-otorhinolaryngology, gynecology and obstetrics, urology, orthopedic surgery, and pediatrics. Specialties with fewer than ten physicians included pathology, radiology, neuropsychiatry, anesthesiology, dermatology, cardiology, gastroenterology, proctology, thoracic surgery, neurosurgery, plastic surgery, and public health.

Information regarding other practitioners is presented in Table 2.1. Apparently the supply of osteopaths and registered nurses was well above the national norms while that of dentists fell short.

Hospitals operating in the county in 1960 numbered 12. Eight of these were licensed by the Florida State Board of Health as general hospitals,* and they included two osteopathic institutions. The four specialized hospitals were comprised of a private institution for the mentally ill, a small hospital for crippled children, a large Veterans Administration hospital, and a small temporarily licensed hospital serving mainly as a nursing home. The general hospital had a total of 1,231 beds, or a rate per 1,000 population of 3.3 beds.

Table 2.1. Numbers of Medical and Paramedical Personnel and Rates per 100,000 Population, Pinellas County, and Corresponding Rates for the United States, 1960.[1]

	Pinellas County		United States
Type of personnel	Number[2]	Rate per 100,000 persons	Rate per 100,000 persons[3]
Osteopaths	62	17	8[4]
Dentists	150	40	56[4]
Chiropractors	50	13	
Naturopaths	24	6	
Registered nurses	1,156	309	282[5]
Licensed practical nurses	443	118	

[1] Source of national data: U. S. Bureau of the Census, *Statistical Abstract of the United States: 1962*, Washington, D. C.: Government Printing Office, 1962, table 83, page 74.
[2] Excludes personnel not in practice and not employed, in most instances. Osteopaths and dentists are those listed in current telephone directories. Naturopaths and chiropractors are those licensed by the Narcotics Division, Florida State Board of Health. Registered nurses and licensed practical nurses are those registered with St. Petersburg and Clearwater official doctors' and nurses' registries, with correction for duplications with other local registry in the case of St. Petersburg.
[3] Based on total population including Armed Forces abroad.
[4] Excludes 1960 graduates.
[5] Active professional graduates.

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* Defined as "any hospital giving general medical and surgical care and having more than 75 beds." Florida State Board of Health, *Licensing Rules, Regulations and Standards for Hospitals of Florida*, August, 1948.

The comparable rate[*] for the nation in that year was 3.6 beds.

Mound Park Hospital, operated by the City of St. Petersburg, is the largest of the general hospitals, with a bed capacity of 575 in 1960. A progressive care plan was in operation and a chronic-disease unit was opened for service in 1965. Elderly persons made up a highly significant element of the hospital's patients. Of approximately 19,000 discharges during the year 1961-62, more than 6,700, or 35 percent, were age 65 or over.

In interpreting the meaning of the bed rate of 3.3 per 1,000 population, it is essential to know that the population of the area increases considerably during the winter months with short- and long-stay visitors from other states. The influx of tourists has been estimated by the Chamber of Commerce as over half a million persons. Whatever the absolute numbers of visitors, it is true that all of the general hospitals are overcrowded during the first months of each year, a situation which often necessitates use of hallways for additional beds, and acute shortages of nursing personnel in hospitals are experienced. Community leaders in general have been in agreement that the seasonal over-crowding of facilities as well as the rapid growth of population point to the need for more hospital beds. Planning of expansion and new construction, however, has been done independently by the several interests with little coordination and without an attempt to consider on an area-wide basis questions of geographic location, growth patterns, and phasing of additions in a long-term program.

The 1960 survey of health-care resources in the county revealed that there were 26 licensed nursing homes with a total of 909 beds[**] but only four licensed homes for the aged with a total of 77 beds. The largest facility was the Pinellas County Home, licensed as a nursing home, with 150 beds.

The supply of nursing home beds in Pinellas County in 1960 amounted to 2.4 per 1,000 people, which may be compared with the corresponding rate for Florida of 1.4. Since most patients in nursing homes are elderly people, it is useful also to relate the supply of nursing home facilities to these

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[*] The rate is based on the number of beds in "short-term, general and special" hospitals as defined by the American Hospital Association. Short-term hospitals have an average patient stay of 30 days or less. All types of federal hospitals as well as nonfederal psychiatric and tuberculosis hospitals are excluded from this computation. *U. S. Census of Population: 1960, General Population Characteristics, Florida,* Final Report PC(1) 11B, Washington: Government Printing Office, 1961, Table 93, page 79.

[**] Since 1960 the supply of nursing homes and bed capacities in Pinellas County has been expanded dramatically. In December, 1962, licensed nursing homes numbered 37 and these institutions had a total of 1,525 beds. By December, 1964, there were 41 licensed homes and 2,660 beds, a ratio of 25.7 beds per 1,000 persons aged 65

primary users. The county rate of 9.8 beds per 1,000 persons aged 65 and over compares unfavorably with the state rate of 12.8 in this case. The other Florida counties of large size also had higher rates in relation to the aged segment: Dade, 19.9; Duval, 22.3; and Hillsborough, 18.3.

The state law makes the inspection and licensure of nursing homes and homes for the aged a responsibility of the Florida State Board of Health, which depends in turn upon the county health departments for inspection and recommendations as to licensure. State health and welfare officials acquainted with such institutions throughout the state appear to believe that both physical facilities and quality of care in licensed homes in the county are considerably above the average. This favorable situation is due, in part at least, to the relatively liberal policy of the County Welfare Department in making vendor payments to nursing homes for care of clients. On the other hand, the supply of beds in homes for the aged was, in the opinion of county health and welfare officials, inadequate to meet needs.

A notable gap in health-care resources existed in the limited extent of home-help and home-health services. The only such service operated on a county-wide basis and available to all persons was that of the two Visiting Nurse Associations. These voluntary health organizations, one serving the northern and the other the southern portion of the county, had headquarters in the county health department buildings and maintained close liaison with its nursing service. At the time of the survey three nurses served the upper and six the lower part of the county. Although physical therapy in the home was available through the VNA's, which have the assistance of therapist consultants, this was but a minor aspect of the service.*

The only other type of home-care program was a homemaker service available through the Juvenile Welfare Board only to families with young children. None of the general hospitals had a home-care program, and other home-health and home-help services also were lacking.

The impression given by the variety of clinical, rehabilitative, social, and educational resources is somewhat misleading. A majority of these services were available only to sharply defined segments of the population, such as children, the indigent, or members of organizations. Moreover, the agencies and organizations in many instances did not provide direct clinical services but acted solely as referral and educational resources. Also, it must be noted that the total volume of service furnished, as measured by the number of professional staff members and clients, typically was quite limited. As frequently happens, those services started most recently have tended to set modest goals and, therefore, have had no more than a slight impact on the community.

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* A homemaker service initiated late in 1964 by the Visiting Nurse Association of Greater St. Petersburg has expanded rapidly.

The period of ten years ending in 1960 witnessed a rapid increase in such services and facilities. At the end of the period these included the outpatient clinics of the Mound Park Hospital; a rehabilitation center providing a broad range of services to children and adults; a speech clinic; a community center for the blind, primarily a social and recreational resource but providing limited instruction; a social and activity center for persons suffering from arthritis and rheumatism; two voluntary agencies providing gainful employment for the handicapped; an adult mental health clinic with service limited to persons who could not afford private psychiatric care, persons who were acutely mentally ill, and those who could benefit from outpatient mental care. Other voluntary organizations offering a variety of health, social, recreational, and educational services were associations of retired persons, chapters of national health organizations, and the Community Welfare Council.

Official public health responsibility in the county rests with a single agency, the Pinellas County Health Department; there are no city health departments. The department, operating through its headquarters in St. Petersburg and health centers elsewhere in that city as well as in Clearwater and Tarpon Springs, conducts programs in communicable disease, maternal and child health, adult health and chronic disease, health education, mental health, vital statistics, sanitation, civil defense, research, and mosquito control. A program of bedside nursing was carried on through collaboration with the VNA's as mentioned earlier. In December, 1964, the operating staff of approximately 214 employees included six full-time physician-health officers, a dentist, and two sanitary engineers as well as nurses, health educators, sanitarians, laboratory and x-ray technicians, and clerical and stenographic personnel. State public health officials regard the department as relatively well staffed and alert to the community health needs of the area served.

Organized programs for provision of medical care and hospitalization to residents of the county who cannot afford to pay are conducted by the Florida State Board of Health through the county health department and the Florida Department of Public Welfare and also by the Pinellas County Welfare Department.

The state welfare agency administers the federally aided programs of Old Age Assistance, Aid to the Blind, Aid to Dependent Children, and Aid to the Disabled; and Pinellas County is a part of one of the administrative districts of the department. Recipients of state public assistance may benefit from programs which furnish prescribed medicines, hospitalization for acute conditions for a maximum of 30 days per year, and nursing home care. In each of these programs the department makes vendor payments, that is, it pays the vendor of the service directly rather than through the public assistance recipient. A rather small number of persons in the county are on the public assistance rolls and thus eligible to receive these services. As of June, 1961, there were 3,178 Old Age Assistance cases in the county, comprising 3.4 percent of the population aged 65 and over, and the numbers cared for under the other public assistance programs were correspondingly low.

The medical-care program carried on by the county welfare department provided hospitalization, nursing home care, medical care, mainly through the outpatient clinics of the St. Petersburg municipal hospital, and medicines to the medically indigent. The program of Hospital Service for the Indigent, supported by federal, state, and county funds and administered locally by the county health department, serves only those medically indigent persons whose hospitalization has been necessitated by an acute condition or by an acute exacerbation of a chronic condition. Whether the patient is unable to pay for his care (and thus is medically indigent) is determined by the county welfare department.

In Pinellas County, as elsewhere in the State of Florida, the policy of organized medicine is to care for, without fee, medically indigent persons who meet the criteria as approved by the respective county medical societies. Arrangements for care are entered into by the physician and his patient, without the intervention of other individuals or organizations, except for staff care of hospitalized patients. No estimate of the amount of medical service provided free of charge in this manner has been made, so far as is known. It seems safe to assume, however, that a good deal of physician care is contributed in connection with the hospitalization of the medically indigent, in addition to that provided outside hospital settings.

Summary

Pinellas County, located on the western margin of the Florida peninsula, is rapidly growing in population and predominantly urban. People age 65 and over are greatly overrepresented, and most migrated from other states. Residents' personal income is considerably lower than that of those in the remainder of Florida and in the nation. The county has accommodated itself to its elderly residents in many ways.

The situation with respect to health-care resources in Pinellas County may be summed up as follows: (1) The supply of physicians and dentists apparently would be below the national averages even if the population distribution of the area were normal; and taking into account the higher proportions of the heavy-demand elderly and the large influx of winter visitors, most in the older ages, the supply of these practitioners probably is well below the national norms. (2) Hospital and nursing home bed capacities are lower than the respective national and state norms, and these inadequacies are intensified by the peculiar concentration of the aged and the sizeable seasonal expansion of population. (3) Although important components of a home-health program are found, adequate organization is lacking. (4) A considerable variety of clinical and rehabilitative facilities is in existence, but most of the services are quite new and serve small numbers of patients, because of restrictive admission policies. (5) Although the public health unit is fairly large and well organized, it has tended to stress traditional maternal and child-health as well as communicable disease programs and to neglect the chronic disease area.* (6) Provision is made for hospital and nursing home care and for prescribed medicines for the categorically indigent clients of the state welfare department; medically indigent persons not eligible for assistance under the categorical programs can receive hospital and nursing home service and limited medical care, including drugs, through the county welfare department; physician care generally is not available under public programs except in hospitals but is furnished by individual doctors by arrangement with the patients involved. (7) The county lacks substantial health-care programs directed to the special needs of the elderly segment of the population, although the elements for development of services are present. (8) Finally, the absence of a provision for coordinating the use of personnel, facilities, and programs may have lessened the effectiveness of the considerable resources present in the county.

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* This situation has undergone change since the 1960 survey. Increasing attention is being given to chronic disease matters, and in 1962 the department established a Division of Adult Health and Chronic Disease.

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CHAPTER 3

The Household Survey: Purpose, Methods, and Techniques

The household survey of older people in Pinellas County, a principal feature in the design of the research and program-development project, was the means of obtaining information about the health and social situation which would contribute to knowledge in general and serve as the basis for program planning. Knowledge gained in the household survey, the related surveys of institutional and noninstitutional populations, and the inventory of health resources accessible to residents was expected to be sufficiently precise to permit needs to be identified and arranged in order of their importance. A large part of the first three years of the project term was devoted by the research staff to planning the survey, conducting field interviews, processing the resulting data, and making the preliminary analyses.

Lay interviewers obtained information regarding the condition of the respondents' health, the practices followed in maintaining it, and any needs for care apparently not being satisfied. Regarding social factors, the purpose was to acquire knowledge of personal history, social characteristics, attitudes, and economic position that would aid in understanding the situation of the elderly people in the county and in interpreting the health data.

Method

The household or population survey is frequently depended upon to provide information not available from other sources when the information should be current or nearly up to date, when the purpose requires that the data represent a known segment or the totality of a defined population, and when the analysis can be made meaningful only through cross-tabulation of specified characteristics of the population studied. As a social survey, this method yields information required for the testing of hypotheses or the answering of questions; as a morbidity survey, it leads to the establishment of rates which function, within certain limits, as an indication of the degree to which the population deviates in certain respects.

The household survey is one of five principal methods for determining incidence and prevalence rates. The first is universal reporting, based upon the reports of illnesses which physicians submit in the course of their professional duties; the second, utilization of records from health, medical, or insurance programs; the third, longitudinal studies in which the same population is observed through time; the fourth, diagnostic surveys in which, usually, several conditions are "screened" by means of physical examination and the use of tests; and the fifth, the population survey[1]. Each method has strengths and weaknesses and none is entirely satisfactory by itself. A survey of a sample of a large population is probably the best way to obtain incidence and prevalence rates for all forms of illness combined. A notable advantage of this method in the present study is that sickness can be related to a greater variety of demographic characteristics and environmental factors than if the population data were obtained from census statistics. Moreover, the method permits great flexibility in the design of the study. On the other hand, it cannot provide reliable, detailed medical information concerning causes of illness and the manner in which a disease affects the person afflicted[1].

In this survey, personal interviews were conducted, guided by a schedule of questions, with a representative sample of the noninstitutional, resident population over 65 years of age in Pinellas County in 1959. The survey was cross-sectional, that is, each respondent was questioned only once rather than repeatedly over a period of time. Following the completion of field work, data were transferred from the survey instrument to punched cards for processing by machine.

In subsequent sections of this chapter the sample design, the schedule of questions, interviewing, field-work procedures, concepts and techniques, and data processing are discussed at greater length.

*Sample Design**

In developing a design for sampling, an effort was made to devise a procedure for selecting respondents which would result in drawing into the survey a number of people in the "old" ages whose social characteristics and health condition, needs, and practices could be assumed as typical of the general class of "old" people living in the county at the time of the survey. It was recognized that the threshold of old age would have to be stated chronologically and, therefore, would

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* This section is based in part on an earlier description of the sample design in Irving L. Webber, "Significant Socioeconomic Factors in Measuring Health Status and Health Needs," in Carter C. Osterbind, Ed., *Aging: A Regional Appraisal* (Gainesville: University of Florida Press, 1961), pp. 82-93.

be arbitrary. Since considerable information regarding the elderly confined to institutions already existed and additional knowledge could be obtained through studies independent of the household survey, it was decided to eliminate this segment from the sample. One objective was to determine the relationships of those interviewed to the health personnel, facilities, and service programs of their communities; hence, it appeared wise to exclude from the sample the newcomers to the county who possibly had not had time and opportunity to relate themselves to such resources.

In view of these considerations, the population to be studied was defined as the people in Pinellas County who (1) were 65 years old or over on the day contact was first made with the household, (2) had established residence in the county by July 1, 1958, nine months before the survey was initiated, (3) were not confined to hospitals, nursing homes, homes for the aged, jails, or other institutions on the day of contact, and (4) were capable physically and mentally of responding to the questions. The restriction as to length of residence eliminated visitors and tourists and the exclusion of persons too sick to be interviewed was necessary to achieve uniformity in data collection; however, as indicated later, a procedure was established for obtaining from a third party certain information about those subjects who were too ill to participate.

It was decided to use as sample frames the 1958 city directories of St. Petersburg, Clearwater, the St. Petersburg Beaches, and Tarpon Springs and aerial maps of the remainder of the county not listed in the city directories. The areas covered by the directories comprised the incorporated cities, the contiguous municipalities, and urbanized districts outside these city limits. The areas not included in the directories contained relatively few people and were primarily rural in character.

Households were selected from the directories by street address listings systematically after a random start. Institutional arrangements, licensed nursing and boarding homes, and business establishments were excluded. After some experience in using the directories, it was found that they had shortcomings with regard to the inclusion of housetrailers and individual apartments. Since these households did not have an equal chance of being drawn into the sample, supplemental samples were selected of households in such structures.

Using aerial maps, the portion of the county not included in the directories was divided into areas from which a sample was randomly chosen; from each of the sample areas a number of households was selected on a systematic basis from a random start. An attempt was made to keep the several segments of the sample (that is, directory and nondirectory, and apartments, mobile homes, and other living arrangements in the directory part) proportional to their relative importance in the noninstitutional population. This task was difficult for in some instances it was necessary to rely on the best available estimates because there were indications, later corroborated by data from the 1960 census, that considerable change had occurred since the enumeration in 1950. Since the geographic distribution of the elderly in the county was not known, the use of a dispersed sample seemed desirable in order to minimize or avoid the possibility of failing to include important segments of the population. Despite their deficiencies, the directories and aerial maps afforded the best available frames for accomplishing our purposes.*

By the procedures outlined, 6,491 households – located throughout the county and composed of persons of all ages – were drawn into the sample. As the first step in a two-stage process, each household was then "screened" in order to learn its composition and, in particular, to determine whether it included persons who were within our universe. Screening was accomplished either by telephone, a field visit by an interviewer, or a combination of the two techniques.** As the second step, those defined as eligible for inclusion in the survey were subsequently interviewed, unless they could not be reached or refused to cooperate, and the data collected constitute the substantive results of the survey.

Upon completion of the screening phase, it was found that 2,829 eligible persons constituted the sample; however, 36 were found too ill to be interviewed, reducing the eligible number to 2,793.*** Of these, 228 refused to participate and 21 could not be located despite repeated efforts by the interviewers. Thus, interviews were completed with 2,544 persons. Those who refused to volunteer the information required by the schedule comprised 8.2 percent of the sample units (eligible persons). When these nonparticipants are added to those who could not be located, the total nonresponse amounted to 8.9 percent of the 2,793 eligible persons. Refusals could occur at the level of the screening operation; however only two households declined to furnish the basic information regarding composition. There were 33 households with eligible respondents in which one or more persons served notice during screening that they were unwilling to be interviewed in the second phase of the survey; these persons are included among the 228 refusals.

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* A more extensive and technical description of the sample design is annexed as Appendix A.

** The screening process is described in detail in Irving L. Webber, "Some Methodological Considerations in a Health Survey of an Older Population," in Jerome Kaplan and Gordon J. Aldridge, eds., *Social Welfare of the Aging*, New York: Columbia University Press, 1962, pp. 212-217.

*** Information regarding these 36 individuals who could not respond to questioning was obtained by means of a special third-person schedule.

Comparison of Sample with Census

Comparisons of the characteristics of the sample with census data are found in Table 3.1. Since interviewing was begun in April, 1959, and ended in mid-January, 1960, the observations in the household survey were made from one year to less than three months before the day of the official U. S. census, April 1, 1960.

In general, the agreement between census and sample statistics with regard to age distribution and sex ratio is reasonably close. The only marked difference occurs in the case of the nonwhite portion of the sample. Because of the small number of nonwhite respondents drawn into the sample, the likelihood of chance variation was relatively great.

Table 3.1. Comparison of Census Data and Sample for Selected Characteristics, Household Survey of the Aged, Pinellas County, 1959

Characteristics	1960 census*	Sample located	Sample interviewed
Age distribution			
Both sexes			
Percent of total population aged 65 and over	24.9	24.6	
Percent of those 65 and over who were aged 65-74	70.6		69.8
Percent of those 65 and over who were aged 75 and over	29.4		30.2
Male			
Percent of those 65 and over who were aged 65-74	70.6		67.9
Percent of those 65 and over who were aged 75 and over	29.4		32.1
Female			
Percent of those 65 and over who were aged 65-74	70.6		71.5
Percent of those 65 and over who were aged 75 and over	29.4		28.5

Table 3.1. (Continued)

Characteristics	1960 census*	Sample located	Sample interviewed
White			
Percent of total population aged 65 and over	26.8	26.1	
Nonwhite			
Percent of total population aged 65 and over	4.7	7.0	
Sex ratios**			
Total	97.1		96.0
White	97.3		97.4
Nonwhite	86.8		52.5
Employment status			
Percent of population aged 65 and over in labor force	8.6		9.5
Marital status			
Percent of population aged 65 and over:			
Single	5.5		4.8
Married	66.3		65.8
Widowed	26.2		28.2
Divorced	2.0		1.2

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* Includes the population in group quarters. Computed from U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Population Characteristics, Florida,* Final Report PC (1)-11B, Washington: Government Printing Office, 1961, Tables 13 and 27; also U. S. Bureau of the Census, *U. S. Census of Population: 1960, Detailed Characteristics, Florida,* Final Report PC(1)-11D, Washington: Government Printing Office, 1962, Tables 115 and 105.

** Number of males per 100 females.

The Schedules

For the purpose of eliciting and recording information from the people interviewed, two schedules of questions were constructed. The first of these, the regular schedule (later referred to as "the schedule"), was employed in the 2,544 interviews with those who satisfied all the criteria for inclusion in the universe; the second, a special and shorter schedule made up of certain items from the regular schedule, was used in obtaining from a household informant selected information regarding the 36 persons who could not be interviewed because of physical or mental illness.

The objective was a series of questions which would elicit from the respondents enough information regarding their health, social conditions, and social relationships to form a substantial basis for the description and planning of services to satisfy more adequately the pressing unmet needs that could appropriately be allocated to the public health sphere. Since the objective was broad, it was possible to utilize the experience of a number of earlier studies which had explored one or more aspects of the matter. Among the schedules examined were Your Activities and Attitudes, prepared by Ernest W. Burgess and others of the University of Chicago[2]; those developed by the National Opinion Research Center for its study of the health of the aging in 1957[3]; those employed by the Survey Research Center, University of Michigan, in its Modern Living Study of 1957; the Columbia Adult Health Inventory by Irving Lorge, Jacob Tuckman, and Frederic D. Zeman[4]; the Duke Check List*; that prepared for the study of Adjustment to Retirement by Carter C. Osterbind and Irving L. Webber, of the University of Florida; and the Field Survey Questionnaire used in the Kips Bay-Yorkville Health Study[5].

The instrument which emerged after some months of development comprised 199 items requiring 28 pages. The items were classified in six major divisions: (1) social characteristics, including personal history; (2) health status and needs; (3) health-care practices; (4) health costs; (5) attitudes; and (6) interviewers' observations.

In addition to the major social characteristics – race, age, sex, marital status, education, religion, occupation, income, living arrangements, household composition, and birthplace -- the schedule sought to elicit information about previous place of residence, length of residence, voting, organizational memberships, activities, relationships to friends and relatives, retirement, career occupation, and assets. Health status was approached through inquiries about symptoms, diagnoses, accidents, operations, vision, hearing, dental problems, mental condition, and disability; health needs were suggested by questions about medical care as related to condition of health. In order to measure the amount and kind of health-care practices, a series of items dealt with visits to and from medical doctors, osteopaths, and other practitioners; use of clinics; hospitalization; confinement in nursing homes; employment of full-time nurses at home, visiting-nurse service, and housekeepers; x-ray and laboratory services received; and medicines and drugs used. Health costs were assessed by inquiry regarding the expenditures for the foregoing services. An attempt was made to probe a wide variety of the respondent's attitudes–toward his own health, the threat of illness, the community as a place to live, associates, satisfaction or dissatisfaction with health care, periodical medical examinations, health and hospital insurance, and the use of an information and referral center for health. The interviewers recorded independently their observations of the respondents' activity, walking, appearance, gait, comprehension, nutrition, interest, attitude, physical appearance, hearing loss, and speech; in addition, they assessed housing and living accommodations with the aid of eight check lists.

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* Developed by the Duke Hospital, Duke University.

The special schedule consisted of 46 items from the regular schedule, some of them necessarily in modified form. Its purpose was to obtain a limited amount of information that would permit the very sick to be compared with the "well" respondents.

The health sections of the schedules were pretested and modified, then the complete instruments were subjected to pretest with a subsample of 100 persons. (Copies of the regular and special schedules are included as Appendices B and C.)

Interviewing

The field workers responsible for conduct of household screening* and interviews with respondents were recruited with the assistance of the local office of the Florida State Employment Service, which had been provided with a list of criteria for education, training, and experience. Initially, 16 persons were engaged as interviewers; all were women and, in general, middle aged. In preparation for their work, they were given three days of training by the research staff. This included an explanation of the aims and purposes of the project and the household survey; brief instruction in the techniques of interviewing in a population survey; familiarization with the schedules; and participation in trial interviews with one another. To facilitate training and help to assure uniformity of understanding and definition of items and concepts among the workers, a detailed instructional manual was prepared.

Screening and interviewing proceeded concurrently, with four workers obtaining household information (mainly by field visit), and the remaining 12 devoting themselves to interviewing respondents. By the end of August, 1959, approximately 90 percent of the interviews had been completed and field work was continued with a smaller staff until the cut-off point was reached in mid-January, 1960.

Throughout the interview period, completed schedules were edited by professional staff members as soon as they had been returned to the office to make certain that all items had been answered where appropriate, to detect unlikely or impossible responses, and to discover internal inconsistencies. Conferences were then held individually with the interviewers to deal with questionable items, and in some instances call-backs to secure missing information were required. Group meetings with the field-work staff each morning during the early weeks provided a means of continuing the training process, especially with respect to common problems. Daily performance records were maintained for each interviewer as another of the techniques for supervision and control. It was necessary to dismiss one field worker and to have her interviews repeated.

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* Screening by telephone was carried on for the most part by volunteers supervised by a staff member.

Data Processing

Upon completion of the field work, the process of transcribing the survey information into numerical codes was begun. In practice, three codes were devised. The first of these, which required one punched card for each household, was used to store data derived from the household screening operation. The second and third codes provided for the handling of data obtained in the interviews with respondents. The second code, which involved the transfer to numerical form of somewhat more than half the interview data – that most urgently needed for descriptive and preliminary analyses – required five IBM cards for each of the 2,544 schedules; the third code, having the remainder of the interview data, required four cards for each schedule. Each of the nine cards punched on the basis of the second and third codes included selected "control" items to permit the preparation of cross-tabulations.

The statistical tables of household screening data were run on IBM accounting machines in the offices of the Florida State Board of Health in Jacksonville; the first tabulations of data recorded in the interview schedule were produced by the Machine Services Division of the University of South Florida in Tampa. Beginning in late 1961, tabulations were prepared on an IBM sorter in the offices of the Research Division.

Selected Techniques

The "symptoms technique" for discovering medical needs consists of questions as to whether during a given period an individual has experienced, or at the time of interview is experiencing, specified symptoms, most of which would justify an examination by a medical doctor. Hence, those who report one or more of the serious symptoms and who have not consulted a doctor are considered to have unmet medical needs. This approach, a statistical technique as distinguished from the clinical technique more familiar to health practitioners, was developed by Hoffer, Schuler, and their co-workers in Michigan[6-8].

In the present investigation, a check list of 50 symptoms was used. These symptoms were arranged in the interview schedule in seven groups, several of which were related to the organ systems of the body. According to this classification, the symptom groups were as follows: general (11 symptoms); neuromuscular (5); gastrointestinal (9); cardiovascular-respiratory (9); musculoskeletal (4); genitourinary (11); and foot conditions (1 omnibus item). If the respondent verified that he suffered from a given symptom, he was asked whether he was under medical treatment in connection with the complaint and, if not, why he was not receiving care. The item was worded in such a way that responses reflected difficulties being experienced "now," that is, at time of interview. The purpose of the classification system was to permit some observations as to the kinds of symptoms and to make possible analyses of associations between reported symptoms and reported chronic conditions.

A second approach to health status and needs was made by the use of a check list of 21 chronic conditions introduced by the question, "Have you been told by a doctor that you now have or have had any of the following conditions during the past two years?" In instances where affirmative replies were given, the respondent was asked to indicate whether, within the past two years, he had been treated for his condition by a private medical doctor, an osteopath, a chiropractor, or other practitioner; had been a patient in a hospital; had visited a public or private clinic; had been treated in a nursing home; had had a full-time nurse or nursing care in his home; had received visiting-nurse service; and whether the condition was being treated at the time of the field visit. The two year period of observation for chronic conditions has the advantage of disclosing the existence of long-term conditions which might be missed if the time reference was the present only or a shorter period and the disadvantage of reliance on recall over a relatively long span.

The closely related question of disability associated with each of the reported conditions was regarded as having three dimensions which might properly be probed in the survey.

Degree of disability was measured according to *confinement* to bed, chair, or house and according to *limitation of activity* as shown by a series of levels of incapacity ranging from inability to feed oneself to inability to engage in gardening. The *duration* of the existing level of disability was recorded as appropriate in weeks, months, or years. Where the disability existed in connection with more than one of the conditions, the practice in analysis has been to accept the highest level of disability reported by the individual.

Socioeconomic status was recognized as an important characteristic of the respondents that should be considered in relation to variations in social behavior, health, and health-care practices. The characteristic was measured as of two points in time: *before retirement and migration* and *at the time of interview.* Previous knowledge strongly suggested that a large share of the respondents would be retired and that they would be migrants who had come to the area following the termination of their working careers; that is, that they would not have been in the labor force in the county. It seemed desirable, therefore, to gauge their social-class position, particularly that of those who had moved following retirement, as it had been while they were economically active. The socioeconomic placement at the time of the field-work period also was regarded as highly significant.

The measurement of class position before the movement to Pinellas County was accomplished through the use of principal or career occupation. Objective indices of social class have been based on such characteristics as amount and source of income, occupation, dwelling, neighborhood, education, and institutional membership. For a migrant population, many of whom had been in retirement for one, two, or even three decades, amount of previous income would undoubtedly be of questionable value; information about dwelling, neighborhood, and institutional placement obtainable only through prolonged questioning would be difficult to interpret without extensive knowledge of many distant communities; and education, because of progressive changes in the amount and kind through the decades, would be of limited usefulness. The two characteristics which gave some promise of providing a fairly valid and reliable indication were source of income and occupation. The latter was selected on the basis of evidence from the literature[9].

Accordingly, respondents were asked, "What is (or was) your principal or career occupation – that is, the kind of work you have done most of your life?" The answers were then classified according to the 11 categories of employment used in the United States Census [10], a series extending from professional, technical, and kindred workers to laborers. In order to simplify the analysis for indicating generalized socioeconomic position, these 11 categories were combined into three groups. Group I comprised professional, technical, and kindred workers, managers, officials, and proprietors (except farm); Group II included farmers and farm operators, clerical and sales workers, craftsmen, foremen, operatives, and kindred workers; while Group III was made up of service workers (including those in private households), farm laborers and foremen, and other laborers.

This grouping seemed to subdivide the respondents into three "social layers" on a vertical axis. It differentiated them according to their social position before retirement as accurately as possible without a good deal more knowledge of their social situations before migration.

The principal measure of present socioeconomic level was annual money income. This was obtained in two ways. Respondents could indicate their approximate annual income by a check mark on a mimeographed card handed to them by the field worker; and, in addition, they could specify, on the same card, the exact amount received from a list of sources of income. The 2,437 respondents who supplied answers as to approximate income comprised 95.8 percent of the sample; and the 1,557 who gave exact amounts of income by source (excluding those whose responses appeared to be incomplete) comprised 61.2 percent. It should be kept in mind, however, that all investigations of income and assets which depend upon undocumented responses are subject to certain limitations inherent in the method. First, it is necessary for the respondent to recall the income he has received over a stated period, and his memory may be untrustworthy. Second, there may be conscious or unconscious understatement or overstatement of the amount. Additional problems may arise in delimiting satisfactorily the individual or household unit about which information is sought. Despite these problems, annual income offered the best available measure of existing socioeconomic position.

Summary

The household or population survey frequently is depended upon to provide information not available from other sources. It has its strengths and weaknesses, but it was selected for this project because of the nature of the research problem.

This chapter describes the sample design, the schedules of questions, interviewing, field work procedures, selected concepts and techniques, and data processing.

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CHAPTER 4

The Sample Population

Consideration of the answer to the general question, What are the social characteristics, social situations, and some of the behavioral patterns of the members of the sample population, will shed light on the ways in which the older people in a retirement area are like and unlike persons aged 65 and over in the United States. On the other hand, it will illuminate, in some degree, the social and cultural background against which the findings as to health and the use of health-care resources are to be understood.

St. Petersburg and Pinellas County as a whole have received large numbers of older migrants[1] from other states[2] and the St. Petersburg community in some measure has adapted itself, structurally and functionally, to the needs of its disproportionately large older population[3]. Calculations by the forward-survival-ratio method based on census data resulted in the estimate that between 1950 and 1960 the county received a net migration of more than 60,000 persons who were 65 years of age or over on April 1, 1960, the census day[4]. As a result of this influx, the elderly population in 1960 was almost three times as large as it would have been had there been no migration of persons in the relevant ages.

Geographical Distribution

The 2,544 respondents – all past age 65, permanent residents, living outside institutions and well enough to participate in the interviews – were distributed unevenly – as is the general population – in the several divisions of the county (Table 4.1). More than two thirds resided in the district included in the city directory of St. Petersburg and more than one fifth were found in the Clearwater directory district. Less than two percent lived in the more nearly rural areas not listed in any of the four city directories.

Table 4.1. Distribution of Respondents by Sampling Unit, Household Survey of the Aged, Pinellas County, 1959.

Sampling Unit	Number of respondents	Percentage
Total	2,544	100.0
St. Petersburg	1,768	69.5
Gulf Beaches	118	4.6
Clearwater	564	22.2
Tarpon Springs	54	2.1
Nondirectory	40	1.6

Dissimilarities in the age distribution of respondents in the sampling units also prevailed (Table 4.2). The St. Petersburg area had an "older" age structure, while the Gulf Beaches, Clearwater, and the nondirectory areas had "younger" structures, in terms of the county-wide averages.

Table 4.2. Variations in Geographic Distribution of Respondents by Age, Household Survey of the Aged, Pinellas County, 1959.

Sampling Unit	65-69	70-79	80 and over	Not given
Total	37.0	50.0	12.4	0.6
St. Petersburg	33.5	52.1	13.5	0.8
Gulf Beaches	43.2	50.0	6.8	—
Clearwater	45.3	44.9	9.6	0.2
Tarpon Springs	42.5	38.9	18.6	—
Nondirectory	45.0	45.0	10.0	—

Striking differences in the sex ratio (the number of men per 100 women) likewise occurred in the various areas. Although the sample respondents included fewer men than women, the sex ratio being 96.2, all of the sampling units except St. Petersburg had an excess of male over female respondents (Table 4.3).

Table 4.3*. Sex Ratios by Sampling Units, Household Survey of the Aged, Pinellas County, 1959.

Sampling unit	Sex ratio
Total	96.0
St. Petersburg	88.7
Gulf Beaches	126.9
Clearwater	108.9
Tarpon Springs	184.2
Nondirectory	110.5

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* These sex ratios for the sample population differ from those computed from 1960 census data for the *municipalities* involved. However, it should be remembered that the sampling units included not only the cities named (that is, St. Petersburg, Clearwater, and Tarpon Springs) but also the areas surrounding these cities covered by the city directories. The "Gulf Beaches" comprises St. Petersburg Beach (a municipality) and several other small municipalities. The sex ratios derived from the census counts for 1960 are: St. Petersburg, 86.8; Clearwater, 94.4; St. Petersburg Beach, 109.3; and Tarpon Springs, 146.2.

Major Social Characteristics

Race

The sample population was comprised mainly of white persons; only 61, or 2.4 percent, were nonwhite, and two of these were other than Negro. More than three fourths of the nonwhites resided in the St. Petersburg area; none lived in the Gulf Beaches or nondirectory areas. Nonwhite men numbered 21 and women 40. Because of the small size of the nonwhite component, it is not desirable, in most instances, to take the racial characteristic into account in the consideration of population characteristics, social settings, and behavior. It will be observed that the percentage distributions, according to attributes, would be affected little if the analyses were limited to the white component.

Sex

The sex ratio of 96.2 men for every 100 women was observed to mask striking variations in the sex distribution by geographic areas. Marked differences in sex ratio by age groups can be seen in Table 4.4, with an excess of women in the ages under 75 and an excess of men in the higher ages. It appears likely that the relatively low ratios existing at ages 65-69 and 70-74 in particular may be related to the combined effect of two factors. The first is the tendency for wives to be younger, on the average, than their husbands[5]. The other, arising out of the sample design employed in this survey, was the elimination of persons (in this case, wives) who had not attained the age of 65.

Table 4.4. Sex Ratios by Age, Household Survey of the Aged, Pinellas County, 1959.

Age*	Sex ratio
65-69	88.0
70-74	97.6
75-79	106.9
80-84	101.8
85 and over	144.4

* Age was not reported by 1 man and 14 women.

Age

More than a third of those interviewed were aged 65-69 and approximately one third were in the next higher five-year age category. Seven tenths of the sample population, therefore, was less than 75 years of age (Table 4.5).

Table 4.5. Respondents According to Age and Sex, Household Survey of the Aged, Pinellas County, 1959.

	Men		Women	
Age	Number	Percent	Number	Percent
All ages	1,245	100.0	1,284	100.0
65-69	440	35.3	501	39.0
70-74	407	32.7	417	32.5
75-79	232	18.6	217	16.9
80-84	114	9.2	113	8.8
85-89	46	3.7	28	2.2
90 and over	6	0.5	8	0.6

Compared with the population of the United States aged 65 and over in 1960, the Pinellas County sample had larger proportions of persons aged 70-74 and smaller proportions aged 80 and over (Table 4.6). The proportions of men were below the national levels under age 70 and above in the higher ages, while the proportions of women were above the national norms under age 75 and below beyond that age.

Table 4.6. Age Distribution of the Sample Population and of the Population of the United States Aged 65 and Over (1960), by Sex, Household Survey of the Aged, Pinellas County, 1959.*

	Percentages					
	Total		Male		Female	
Age	Pinellas County	United States	Pinellas County	United States	Pinellas County	United States
Total	100.0	100.0	100.0	100.0	100.0	100.0
65-69	37.2	37.8	35.3	39.1	39.0	36.7
70-74	32.6	28.6	32.7	29.1	32.5	28.2
75-79	17.7	18.4	18.6	18.1	16.9	18.7
80-84	9.0	9.6	9.2	8.9	8.8	10.1
85 and over	3.5	5.6	4.2	4.8	2.8	6.3

* Source of national data: U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Population Characteristics, United States Summary*, Final Report PC(1)-1B, Washington: Government Printing Office, 1961, Table 45, p. 146.

Education

Approximately one in 20 of those interviewed reported either no formal education or completion of the fourth grade or less, and according to a standard often used at present, these would be classified as functionally illiterate. One in 12 of those in the sample were college graduates or had had graduate or professional school education. The modal class was comprised of persons who had received from five to eight years of formal schooling. The next largest number was made up of those who had finished four years of high school

(Table 4.7). Three in ten respondents had received vocational training. One third of these were high school graduates; 3 in 10 reported 5-8 years of regular schooling; and 2 in 10 had 1-3 years of high school.

Table 4.7. Educational Level of the Sample Population, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Educational level	Total	Male	Female
Total	100.0	100.0	100.0
No formal education	1.7	1.6	1.7
Fourth grade or below	4.3	5.6	3.1
Fifth through eighth grade	39.0	42.3	35.9
One through three years of high school	17.5	15.4	19.6
Four years of high school	21.1	17.9	24.1
One through three years of college	7.8	6.4	9.2
Four years of college	6.4	7.6	5.2
Graduate or professional school	2.1	3.2	1.0
Not reported	0.1	—	0.2
Business, technical or trade school	30.0	35.2	25.1

Relatively more men than women were in the functionally illiterate category, but more men than women reported the highest educational accomplishment. Thus, 7.2 percent of the men had four years or less of formal schooling compared with 4.8 percent of the women, and 10.8 percent of the men were college graduates or had had postgraduate education compared with 6.2 percent of the women. In addition, a larger share of men had attended business, technical, or trade schools (35.2% compared to 25.1%).

Table 4.8 shows that the sample population compared favorably with the aged population of the United States in 1959 as to educational status. Decidedly smaller proportions fell in the illiterate and functionally illiterate classes and considerably larger proportions were in the groups with one or more years of high school training and one or more years of college study. It is evident that the elderly migrants to the county represented an advantaged group from the educational standpoint.

Table 4.8. Educational Level of the Sample Population and of the Population of the United States Aged 65 and Over (1960), for Selected Categories, Household Survey of the Aged, Pinellas County, 1959.

Educational level	Percentages	
	Pinellas County	United States*
None	1.7	6.4
Less than 5 years	4.3	13.6
5 to 8 years	39.0	45.6
1 to 3 years of high school	17.5	11.4
4 years of high school	21.1	10.2
1 to 3 years of college	7.8	4.9
4 years of college	6.4	2.9
5 years or more	2.1	1.4
Not reported	0.1	3.6

* Source: U. S. Senate, Committee on Labor and Public Welfare, Subcommittee on Problems of the Aged and Aging, *The Aged and Aging in the United States: A National Problem*, Report No. 1121, Washington: Government Printing Office, 1960, Appendix A15, Table 14.

Marital Status

Most of the respondents–about two thirds–were married and living with husband or wife at the time of interview in 1959 (Table 4.9). Widowed persons comprised more than one fourth of the total and made up the second most important of the marital-status categories. Relatively few people were single, married but separated, or divorced. The expected pronounced differences in status according to sex were found, with one and a half times as many married men as married women and almost three times as many widows as widowers.

Table 4.9. Marital Status of the Sample Population, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Marital Status	Percentages		
	Total	Male	Female
Total	100.0	100.0	100.0
Married	65.8	80.3	51.8
Single	4.8	3.7	5.8
Widowed	27.7	14.1	40.8
Married but separated	0.5	0.6	0.4
Divorced	1.2	1.3	1.2

When marital status is examined according to age, the proportions married were highest at 65 through 69 and lower for each successive age group; and proportions widowed were lowest at ages 65-69 and higher for the older age categories (Table 4.10). The numbers of married but separated persons (13) and of divorced persons (31) were too small to merit further analysis.

In all age groups more men than women were married and living with spouse and more women than men were widowed. By age 85 and over only one fifth of the women were married and nearly three fourths were widowed; of the men in the same age category, half were married and less than half were widowed.

Table 4.10. Proportions of the Sample Population Married and Widowed, by Age and Sex, Household Survey of the Aged, Pinellas County, 1959.

Age	Married		Widowed	
	Men	Women	Men	Women
Total	80.3	51.8	14.1	40.8
65-69	85.9	61.3	7.3	30.7
70-74	83.8	56.4	10.8	38.1
75-79	77.1	45.1	18.5	48.9
80-84	65.8	19.4	28.9	69.1
85 and over	50.0	19.4	46.2	72.2

The elderly of Pinellas County differed decidedly from their national counterparts with regard to marital status (Table 4.11). Married persons with spouse present were greatly overrepresented, while the single, married but separated, widowed, and divorced were underrepresented. These differentials prevailed for both the men and women. Less than half the expected number of married persons with spouse absent were found, and widowers and widows also were far fewer than in a typical population. The predominance of married persons seemingly is related to a tendency for married pairs to migrate in greater proportions than the nonmarried.

Table 4.11. Marital Status of the Sample Population and of the Population of the United States Aged 65 and Over (1959), Household Survey of the Aged, Pinellas County, 1959.*

Marital status	Total		Male		Female	
	Pinellas County	United States	Pinellas County	United States	Pinellas County	United States
Total	100.0	100.0	100.0	100.0	100.0	100.0
Single	4.8	7.3	3.7	7.1	5.8	7.6
Married, spouse present	65.8	51.4	80.3	69.4	51.8	36.4
Married but separated	0.5	1.1	0.6	1.3	0.4	0.9
Widowed	27.7	38.7	14.1	20.4	40.8	53.9
Divorced	1.2	1.5	1.3	1.8	1.2	1.2

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* Source of national data: U. S. Bureau of the Census, *Current Population Reports, Population Characteristics*, Series P-20, No. 96, November 23, 1959, Table 1.

Religious Preference

More than four fifths of the respondents were Protestants, and most of the remainder were Roman Catholics (Table 4.12). Those of Greek Orthodox, Jewish, and other religions made up less than three percent of the sample. Relatively, and in absolute numbers, more women than men were Protestants and more men than women were Roman Catholics, while men outnumbered women disclaiming any religious preference.

Table 4.12 Religious Preference, by Sex, Household Survey of the Aged, Pinellas County, 1959.

	Percentages		
Religious preference	Total	Male	Female
Total	100.0	100.0	100.0
Protestant	81.7	78.8	84.5
Roman Catholic	14.5	15.7	13.3
Greek Orthodox	1.1	1.9	0.3
Jewish	1.0	1.1	0.9
Other	0.3	0.2	0.5
None	1.2	2.1	0.4
Not reported	0.2	0.2	0.1

Employment and Retirement Status

Less than one tenth of the respondents reported that they were engaged in full-time or part-time paid employment at the time of interview. As Table 4.13 indicates, a much larger

Table 4.13. Employment Status, Household Survey of the Aged, Pinellas County, 1959.

	Percentages		
Employment status	Total	Male	Female
Total	100.0	100.0	100.0
In paid employment	9.5	12.4	6.7
Not in paid employment	90.3	87.5	93.0
Not reported	0.2	0.1	0.3

Table 4.14. Retirement Status, Household Survey of the Aged, Pinellas County, 1959.

	Percentages		
Retirement status	Total	Male	Female
Total	100.0	100.0	100.0
Considers self retired	59.7	90.4	30.1
Does not consider self retired	37.9	9.1	65.6
Don't know	2.4	0.5	4.3

proportion of men than women were employed. The statistics presented in Table 4.14 represent replies to the question, "Do you consider yourself retired now?" The apparent discrepancy between employment status and retirement status is attributable to the responses given by the women in the sample. Understandably, a substantial number did not regard themselves retired for they continued to perform household duties much as they had in earlier years. On the other hand, the responses of the men are largely congruent with their reported employment status, except that some of those economically active nevertheless considered themselves retired.

The aged population of Pinellas County was highly atypical of the general population of the United States aged 65 and over in that such a small proportion were employed. The divergence from the national norm was particularly great for men (Table 4.15).

Table 4.15. Labor Force Status of the Sample Population and of the Noninstitutional Population of the United States Aged 65 and Over (1959), by Sex, Household Survey of the Aged, Pinellas County, 1959.*

Labor-force status	Percentages	
	Pinellas County	United States**
Both sexes	100.00	100.0
Employed	9.5	20.3
Not employed	90.3	79.7
Not reported	0.2	—
Male	100.0	100.0
Employed	12.4	33.1
Not employed	87.5	66.9
Not reported	0.1	—
Female	100.0	100.0
Employed	6.7	9.8
Not employed	93.0	90.2
Not reported	0.3	—

* Source of national data: U. S. Senate, Committee on Labor and Public Welfare, Subcommittee on Problems of the Aged and Aging, *The Aged and Aging in the United States: A National Problem*, Report No. 1121, Washington: Government Printing Office, 1960, Appendix A21, Table 8.

** In computing the percentages of the aged population of the United States, "employed" was limited to persons in the labor force who were reported as working; "not employed" summed the unemployed and those not in the labor force. This procedure was followed in order to make the statistics more nearly comparable to those developed in the household survey, in which no effort was made to determine whether persons not in paid employment were looking for work.

Housing

A large majority of the sample population resided in detached single dwelling units; the next largest proportion, nearly one sixth, lived in apartments (Table 4.16). A surprisingly large number, almost one tenth of the total, made their homes in house trailers. Compared with women, men were somewhat more likely to be found in detached single dwellings and mobile homes, while women were more likely to reside in apartments, hotels, and boarding, guest, or tourist homes.

Table 4.16. Percentages of the Sample Population Occupying Various Types of Dwelling Units, by Sex, Household Survey of the Aged, Pinellas County, 1959.

	Percentages		
Dwelling unit	Total	Male	Female
Total	100.0	100.0	100.0
Detached single	71.7	74.3	69.1
Boarding/guest/tourist home	0.9	0.6	1.2
Apartment	15.3	13.0	17.5
Hotel	2.5	2.2	2.8
Motel	0.3	0.5	0.2
Trailer	8.9	9.1	8.7
Other	0.4	0.3	0.5

The proportion of persons living in detached single dwellings declined steadily with higher age, varying from 74.4 percent at ages 65-69 to 64.8 percent at age 85 and over while apartment dwellers increased gradually from 13.6 percent at ages 65-69 to 22.7 percent at 85 and over. The share of the elderly residing in hotels increased with age. It was found also that at all age levels relatively more men than women lived in detached single dwellings and more women than men made their homes in apartments (except at age 85 and over in the case of the apartment dwellers).

More than three fourths of those interviewed reported that they owned their homes (Table 4.17). Not surprisingly, men were more likely than women to own rather than to rent living quarters. Smaller percentages owned their homes in each successive higher age bracket, the range being from

Table 4.17. Tenure Status of the Sample Population, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Tenure status	Total	Male	Female
Total	100.0	100.0	100.0
Own quarters	77.2	80.9	73.6
Rent quarters	16.5	14.2	18.6
Other arrangement	6.1	4.5	7.7
Not reported	0.2	0.4	0.1

81.6 percent at ages 65-69 to 48.9 percent at age 85 and over, and larger percentages rented their living accommodation, the comparable figures being 14.0 at 65-69 and 29.5 at 85 and over. In general, the same relationship of tenure status with age existed for men and women.

Household Composition

The degree to which the aged population is concentrated in two-person and one-person households is revealed by Table 4.18. Only one eighth of the respondents lived in households made up of three or more persons, and the patterns of size varied somewhat for men and women. Particularly interesting is the fact that more than twice as many women as men, relatively, resided in one-person households.

Table 4.18. **Size of Household, by Sex, Household Survey of the Aged, Pinellas County, 1959.**

	Percentages		
Number of persons	Total	Male	Female
Total	100.0	100.0	100.0
One	20.8	11.9	29.2
Two	66.4	75.7	57.6
Three	9.1	8.8	9.4
Four or five	2.7	2.5	3.0
Six through eight	1.0	1.1	0.8

To a surprising extent, the households comprised of more than one person were made up of kinship groups (Table 4.19). Fully three fourths included relatives of the respondent–the spouse only, the spouse and other relatives, or relatives other than the spouse. Only one in 30 respondents lived with nonrelatives. It should be remembered, however, that one fifth resided in one-person households.

Table 4.19. **Composition of Household, by Sex, Household Survey of the Aged, Pinellas County, 1959.**

	Percentages		
Household composition	Total	Male	Female
Total	100.0	100.0	100.0
Respondent only	20.8	12.0	29.2
Respondent and spouse only	58.7	71.3	46.6
Respondent and relatives other than spouse	10.0	5.3	14.6
Respondent, spouse, and other relative	5.9	7.9	4.0
Respondent, spouse, and unrelated person	0.9	1.0	0.8
Respondent, relative(s) other than spouse and unrelated person	0.4	0.1	0.6
Respondent and unrelated person	3.3	2.4	4.2

More than twice as many women as men resided with relatives other than a married partner. Men were more likely than women to be living with one or more relatives including spouse—85.6 percent of the men in such kinship groups, compared with 66.6 percent of the women. Relatively more women made their homes with nonrelated persons and their isolated situation takes on even greater significance in view of the fact that almost one third lived by themselves.

Size of household varied at the different ages with one-person households becoming much more prevalent with increasing age, while two-person households became much less common, decreasing from about seven tenths to four tenths of all households. Living arrangements made up of three or more members fell from one eighth at the lowest ages to one tenth at ages 75-79 and then rose sharply to comprise three tenths of all households at age 85 and above. Two-person households consisting of the respondent and his or her spouse decreased by more than half, from 64.8 percent at ages 65-69 to only 29.5 percent at age 85 and over.

Social Class

As indicated in Chapter 3, an effort was made to gauge the social class levels through analysis of the principal or career occupations which the respondents had pursued during their working lifetimes. This approach seemed desirable

Table 4.20. Principal or Career Occupations of Respondents or of Respondents' Husbands, by Sex, Household Survey of the Aged, Pinellas County, 1959.*

Occupational classes	Percentages Total	 Male	 Female
Total	100.0	100.0	100.0
Professional, technical, and kindred workers	13.1	10.0	16.0
Farmers and farm operators	3.4	3.6	3.2
Managers, officials, and proprietors, except farm	26.2	27.9	24.6
Clerical and kindred workers	8.2	6.3	10.1
Sales workers	8.4	8.1	8.6
Craftsmen, foremen, and kindred workers	24.9	30.8	19.2
Operatives and kindred workers	6.7	5.7	7.7
Private household workers	1.0	—	1.9
Service workers, except private household	5.7	4.5	6.9
Farm laborers and foremen	0.4	0.3	0.5
Laborers, except farm and mine	1.7	2.6	0.8
Not reported	0.3	0.2	0.5

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* Married women and widows who had not been in the labor force were placed in the occupational categories of their husbands for the purpose of assigning a social class level.

for so few (or their spouses) were still at work or employed in their major lifetime occupation. The basic data are shown in Table 4.20.

In order to simplify the analysis, as stated in the earlier discussion, these 11 categories of occupations were compressed into three groups, corresponding roughly to three arbitrary social class levels. How the Pinellas County male respondents compared with the corresponding population of the United States aged 55-64 and 65 and over as of April, 1959, is presented in Table 4.21. The predominantly retired population of the county included considerably more men at the highest socioeconomic level and considerably fewer men at the lowest level (Table 4.20). Inasmuch as the majority of the men had left their work and migrated to the county near age 65, it is probably more valid to compare them for the present purpose with the national male labor force aged 55-64. When this comparison was made, it was found that the following occupational categories particularly were overrepresented: professional and technical; managers, officials, and nonfarm proprietors; and craftsmen, foremen, and kindred workers. The categories markedly underrepresented were farmers and farm operators; operatives and kindred workers; service workers; and farm and other laborers.

Table 4.21. **Percentages of Employed Male Workers Aged 55-64 and 65 and Over, United States, April, 1959, and of Male Respondents in the Household Survey of the Aged, Pinellas County, 1959, by Socioeconomic Levels.**

Major occupational groups	United States		Respondents, Pinellas County
	55-64	65 and over	
Total males	100.0	100.0*	100.0
Group I	24.5	26.1	37.9
Group II	56.8	53.8	54.5
Group III	18.7	20.2	7.4
Not reported	—	—	0.2

* Because of rounding, percentages do not total 100.0.

Income

As previously stated, those persons interviewed were given an opportunity to indicate their approximate annual income on a card handed to them by the field worker. In an effort to maximize response rate and accuracy, the respondent was assured that the information was confidential. Answers to the income item represented 95.8 percent of the sample.

The definitions of "family" and "unrelated individual" employed in the present study differ somewhat from those adopted for use by the Bureau of the Census. The census term "family" refers to a "group of two or more persons related by blood, marriage, or adoption and residing together." "Unrelated individual" refers to "persons (other than inmates of institutions) who are not living with any relatives"[6]. In the Pinellas County survey *family* refers only to married couples living together, while *individual* refers to persons living alone and with any related or unrelated person or persons other than spouse.*

The annual income of families and individuals so defined was classified on a scale ranging from zero to $5,000 or more. One fourth of the respondents reported incomes of $2,000 to $2,999, and somewhat more than one fifth, $3,000 to $4,999. Those having no income or less than $500 for the year made up 3 percent of the sample. On a cumulative basis, 11.7 percent received less than $1,000; 37.8 percent, less than $2,000; 63.2 percent, less than $3,000; and 85.4 percent, less than $5,000 (Table 4.22).

Table 4.22. Annual Income, 1958-1959, of Respondents Living as Married Couples and as Individuals, Household Survey of the Aged, Pinellas County, 1959.

Income	Number	Percentage	Cumulative percentage
Total	2,437	100.0	—
None	30	1.2	1.2
Less than $500	41	1.7	2.9
$500-$999	215	8.8	11.7
$1,000-$1,499	266	10.9	22.6
$1,500-$1,999	370	15.2	37.8
$2,000-$2,999	619	25.4	63.2
$3,000-$4,999	541	22.2	85.4
$5,000 or more	355	14.6	100.0

In general, the younger the respondents, the greater the annual income they reported. These findings for the white population are summarized in Table 4.23. The modal income class for both age groups was $2,000-$2,999, however, and almost as large a proportion of those in the older category as in the younger had incomes of $5,000 or over. The data also revealed a tendency for the oldest people in the sample to have somewhat lower incomes. Thus, of the 79 white persons who were 85 years of age or over, 11.4 percent had less than $500 and 29.1 percent had less than $1,000 per year. On the other hand, 12.7 percent of these oldest respondents (85 and over) fell in the $5,000-or-over bracket and thus compared favorably with those who were 65-74 years of age.

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* These concepts of family and individual units were used because of our special interest in the two types of living arrangements as they are related to the health status, health needs, and health practices of the elderly residents.

Table 4.23. Annual Income, 1958-1959, of White Persons Living as Couples and as Individuals, by Broad Age Groups, Household Survey of the Aged, Pinellas County, 1959.

Income	65-74		75 and over	
	Number	Percentage	Number	Percentage
Total	1,658	100.0	710	100.0
None	6	0.4	21	3.0
Less than $500	18	1.1	17	2.4
$500-$999	105	6.3	80	11.3
$1,000-$1,499	166	10.0	88	12.4
$1,500-$1,999	247	14.9	114	16.0
$2,000-$2,999	450	27.1	164	23.1
$3,000-$4,999	407	24.6	131	18.4
$5,000 or more	259	15.6	95	13.4

The association of income and age is probably related to certain national economic trends. There has been an upward movement in the salary levels on which pensions are based, more occupations have been included under the Old Age, Survivors, and Disability Insurance program from time to time and OASDI benefits have been increased periodically. It is also likely that in some cases older persons have had to liquidate income-producing assets in order to pay living expenses, medical costs, or to make other emergency outlays.

Since approximately one fifth of the elderly persons were living in one-person households, it is important to examine the income of these people separately. In the case of the white persons in our sample, 477 individuals, or 19.2 percent, resided alone. The modal income class was $1,000-$1,499 (Table 4.24) but the number of persons with this income was only slightly larger than the numbers reporting amounts of $500-$999, $2,000-$2,999, and $1,500-$1,999. Annual income of less than $1,500 was received by 41.5 percent of persons living alone and less than $3,000, by 77.8 percent. Approximately 10 percent had $5,000 or more yearly as income.

Of all white respondents in the study, 1,482, or 59.7 percent, were residing in two-person households consisting of man and wife. It is this segment, comprising about three fifths of all persons interviewed, whose income is tabulated in Table 4.25. In the first instance the income reported as that of the family unit is presented. In the second part of the table, an effort is made to approach the question of the income received by each individual. Under "per-capita in-

Table 4.24. Annual Income, 1958-1959, of White Persons Living Alone, Household Survey of the Aged, Pinellas County, 1959.

Income	Individuals living alone		
	Number	Percentage	Cumulative percentage
Total	477	100.0	—
None	8	1.7	1.7
Less than $500	8	1.7	3.4
$ 500 - $ 999	90	18.8	22.2
$1,000 - $1,499	92	19.3	41.5
$1,500 - $1,999	82	17.2	58.7
$2,000 - $2,999	91	19.1	77.8
$3,000 - $4,999	60	12.6	90.4
$5,000 or over	46	9.6	100.0

come" are arranged the figures from the arbitrary assumption that each of the married persons received half of the family income.

Table 4.25. Annual Income, 1958-1959, of Persons Living as Married Couples, White Only, Household Survey of the Aged, Pinellas County, 1959.

Income	Number	Percentage	Cumulative percentage
Family income			
Total	1,441	100.0	—
None	4	0.3	0.3
Less than $500	3	0.2	0.5
$ 500 - $ 999	18	1.2	1.7
$1,000 - $1,499	99	6.9	8.6
$1,500 - $1,999	214	14.8	23.4
$2,000 - $2,999	439	30.5	53.9
$3,000 - $4,999	408	28.3	82.2
$5,000 or over	256	17.8	100.0
Per-capita income $\left(=\frac{\text{Family income}}{2}\right)$			
None	4	0.3	0.3
Less than $250	3	0.2	0.5
$ 250 - $ 499	18	1.2	1.7
$ 500 - $ 749	99	6.9	8.6
$ 750 - $ 999	214	14.8	23.4
$1,000 - $1,499	439	30.5	53.9
$1,500 - $2,499	408	28.3	82.2
$2,500 or more	256	17.8	100.0

When the figures in Table 4.25 for per-capita income are compared with those in Table 4.24 for individual income of those residing alone, it can be observed that neither household category was markedly better off than the other. It must be remembered in considering this analysis, however, that the division of family income into two equal parts is an artificial procedure which is useful only within the limited framework of approaching the question whether the married couples are decidedly superior or inferior in terms of income to persons living alone.

In addition to their approximate annual income, those interviewed were asked to specify the source of the income. A total of 1,990 persons cooperated; they made up about 78 percent of the respondents. The present discussion is limited to a consideration of "most important source of income," that is, the source from which each individual stated he received the largest share of his income.

Almost half of the respondents (46.4 percent) gave Social Security (Old Age, Survivors, and Disability Insurance) as their most important income source. The second item in frequency was pensions and annuities, given as the most important by 27.4 percent. The remaining "most important sources" in order of decreasing frequency were rentals and leases (7.1 percent), dividends and interest (6.7 percent), wages and salaries (5.8 percent), state welfare, comprising Old Age Assistance and other federal-state assistance programs (3.4 percent), relative or friends (0.9 percent), other (0.6 percent), county welfare (0.2 percent). An additional 1.5 percent who responded to the item in question had no income.

It should be kept in mind that typically respondents received their income from more than one source; therefore, the specification of the most important source should not be interpreted as indicating the only income sources.

Welfare status

Indications of the importance of public assistance programs in the support of the respondents can be gained from the information supplied by 2,320 persons (1,138 men and 1,182 women) whose responses were complete enough for analysis. These data reveal that 4.6 percent were on the rolls of an agency providing public assistance. A large majority – more than 90 percent–reported receiving payments under the Old Age Assistance program administered by the Florida Department of Public Welfare; the remainder of only nine persons were assisted by the Pinellas County Welfare Department. More than twice as many women as men–76 compared with 30–received public assistance. Nearly half (48.3 percent) of the 60 Negroes who supplied income data were welfare recipients, compared with less than one twentieth (3.4 percent) of the whites. However, one of the eligibility requirements for receipt of benefits under the federal-state Old Age Assistance program is residence in the state for five of the last nine years and one third of the residents had lived in the county less than five years when interviewed.

As compared with nonrecipients of public assistance, recipients were decidedly older. For example, 34.9 percent of the recipients were aged 80 or over while only 11.1 percent of the nonrecipients were in that age range. This same relationship of age and welfare status held true for men and women.

Other Behavioral Characteristics

Migration

An impression of the importance of migration in swelling the numbers of persons in the older ages can be gained from an examination of the data on length of residence. Beyond this, the state in which respondents resided immediately before moving to Pinellas County sheds light on the size of migratory streams.

Length of residence. Virtually all of the elderly persons reported that they had migrated to the county, most of them within recent years. As the data in Table 4.26 reveal, less than one sixth had lived in the county for 20 years or more. On the other hand, one third had made their homes in the area less than five years. This figure is somewhat understated on account of the residence requirement imposed as part of the description of the universe for study. Nearly two thirds had resided in the county for less than 10 years.

Table 4.26. Length of Residence in Pinellas County, by Sex, Household Survey of the Aged, 1959.

Length of residence	Percentages Total	Male	Female
Total	100.0	100.0	100.0
Less than 2 years	5.9	6.6	5.3
2 - 4 years	27.3	31.2	23.6
5 - 9 years	30.4	31.6	29.4
10 - 19 years	20.4	18.9	21.7
20 years or more	15.7	11.2	19.9
Entire lifetime	0.2	0.3	0.1
Not reported	0.1	0.2	—

On the average women had longer terms of residence than men. Thus 41.7 percent of the women had been in the county for 10 years or more as against 30.4 percent of their male counterparts. It is likely that this differential resulted from the fact that wives are usually younger than their husbands, thus arriving in the county at earlier ages, and that women enjoy a somewhat longer life expectancy.

In contrast to the white respondents, most nonwhites had resided in the county for long periods of time, well over four fifths having moved to the area prior to 1940.

Sources of migrants. Two regions of the United States accounted for more than six tenths of the migrants. Nearly one third (32.4 percent) had lived in one of the states of the East North Central region – Ohio, Indiana, Illinois, Michigan, and Wisconsin – immediately before moving to the county; and almost as many (31.0 percent) had most recently made their homes in the Middle Atlantic region – New York, New Jersey, and Pennsylvania. Only one other region, New England – Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut – had contributed more than one tenth of the respondents, the proportion being 11.4 percent. The southeastern states, though closest geographically, had been the last previous residence of only 7.8 percent. Those from foreign countries, including Canada, comprised only 1 percent. To a marked degree, migratory streams originated east of the Mississippi River; only 143 persons, 5.6 percent of the sample, had moved from regions located west of that geographic boundary.

There were no important differences according to sex in regions of migratory origin.

Social Integration

In view of the findings that nearly all of the older residents of the county were migrants and had spent relatively short periods of time in their new communities, it is of interest to discover the degree to which they had become integrated in, or a part of, the social and political life. Accordingly, data regarding three somewhat disparate indicators of social integration – voting registration, social and recreational activities, and the presence or absence of close friends or relatives – are examined.

Voting registration. Responses to the question, "Are you a registered voter in Pinellas County?" showed that more than three fourths of these elderly residents were qualified to discharge this responsibility (Table 4.27). A higher proportion of men than women reported that they were registered, but approximately three fourths of the women indicated that they were entitled to vote. These results suggest an unusually high degree of political activity and concern with governmental affairs. Unfortunately, a number of significant questions cannot be answered from the data at hand. It would be most informative, for example, to know how many had voted in the most recent election and whether they had demonstrated as much interest in county, municipal, and state elections as in national contests.

Table 4.27. Registration to Vote in Pinellas County, by Sex, Household Survey of the Aged, 1959

Registration to vote	Percentages		
	Total	Male	Female
Total	100.0	100.0	100.0
Registered	77.7	81.5	74.0
Not registered	22.2	18.3	26.0
Not reported	0.1	0.2	—

Voting registration was most prevalent among those aged 70-74 (81.2 percent), and it was nearly as prevalent in the next higher age bracket, 75-79 years (78.2 percent). From ages 70-74 onward, the proportions decreased with each age category; yet 67.1 percent of those age 85 and over reported that they were currently registered. Since there is evidence from the migration data that most had become residents of the county near age 65, and only 76.5 percent were registered to vote in the ages 65-69, the age trend in voter registration may reflect a tendency for voting to become more common after a period of several years in the community has resulted in greater familiarity with local and state affairs.

Similar trends with age prevailed for men and women except in the oldest ages. At 85 and over 73.1 percent of the men reported voting registration, while only 58.3 percent of the women did so.

Social and recreational activities. In order to obtain some measure of the number, kind, and range of social and recreational activities, a check list consisting of 26 items was read to each respondent.* In addition he was requested to state whether he belonged to one or more of six types of organizations.

Because of the comprehensiveness of the check list, most persons were expected to report a number of activities.

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* The items in the check list are as follows: take walks; tend garden or yard; play shuffleboard; fish; swim; go boating; go dancing; go shopping; bowling; drive a car; take trips; attend dog races, ball games, and so on; sit on green benches; attend Williams Park programs; attend church; take classes; visit friends; go to bars, watch television; listen to radio; sew, knit, or crochet; read; work on hobby; play card games; go to library; other things, to be noted by the interviewer.

Nevertheless, 25 respondents (1.0 percent) failed to encounter a single activity for which they could give an affirmative answer; however, an extremely limited number was the exception; for example, only 17 persons said they engaged in no more than one and only 45 persons confined themselves to two activities. On the other hand, more than a thousand (40.7 percent) did fairly regularly 11 to 15 of the 26 things listed, and 116 (4.6 percent), 16 or more. Larger proportions of men than women reported 11 or more activities (Table 4.28).

Table 4.28. Number of Check-listed Activities Engaged in Fairly Regularly, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Number of activities	Percentages		
	Total	Male	Female
Total	100.0	100.0	100.0
None	1.0	1.0	1.0
1 - 3	5.1	4.7	5.5
4 - 5	6.9	6.5	7.2
6 - 7	12.7	10.5	14.8
8 - 10	29.0	25.0	32.9
11 - 15	40.7	46.6	35.1
16 or more	4.6	5.7	3.5

Range of activity as measured by this technique decreased a good deal with age. While less than one percent of those aged 65-74 reported no activities, 8.0 percent of those age 85 and over were in this inactive category. Similarly, more than nine in ten persons (91.2 percent) in the lowest ten-year category engaged in six or more activities, compared with less than two thirds (63.6 percent) of those who were 85 and over. Yet 12 persons (14.7 percent) beyond age 85 indicated that they had 11 or more of these activities as frequent parts of their usual schedule.

In an effort to determine the nature of the reported activities, the items in the check list were classified as *active*, *less active*, and passive or *sedentary*. Among those considered as active were walks, shuffleboard, fishing, swimming, and bowling; among those regarded as less active were shopping, driving a car, attending games as spectator, attending church, visiting friends, and going to the library; and among those designated as sedentary were watching television, listening to the radio, sewing, reading, and playing cards. Each respondent was placed in the most active category that was applicable; that is, if he engaged in one or more active pursuits, he was classified as active; if he reported no active items but one or more less active ones, he was classified as less active and if he was not involved in any active or less active pursuits, but had one or more primarily sedentary activities, he was classified as sedentary.

More than four fifths of these elderly persons engaged in one or more active pursuits, and most of the remainder had at least one activity regarded as being in the less-active category (Table 4.29). Less than one twentieth were confined to sedentary pursuits or had none whatever. On a relative basis, somewhat fewer women than men were in the active class, but correspondingly more women were classified as less active, so that the proportion in the sedentary class was not much higher for women than for men. It seems clear that very few of the old people were confining themselves to a rocking-chair existence and that a large majority were remarkably energetic and mobile.

Table 4.29. Activities According to Activity-Passivity, by Sex, Household Survey of the Aged, Pinellas County, 1959.

	Percentages		
Classes of activities	Total	Male	Female
Total	100.0	100.0	100.0
Active	83.1	89.6	77.0
Less active	13.3	7.2	19.1
Sedentary	2.6	2.2	2.9
None of the above	1.0	1.0	1.0

As expected, activity determined by an active-passive axis is strongly age-linked. With advancing age, men and women report fewer active items, more less-active items, and more sedentary items, and the number of persons with no activities likewise increases. Table 4.30 presents the magnitude of changes.

Table 4.30. Activities According to Activity-Passivity, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

	Percentages			
	Male		Female	
Classes of activities	65-69	85 and over	65-69	85 and over
Total	100.0	100.0	100.0	100.0
Active	91.6	69.2	83.2	55.6
Less active	5.4	15.4	14.8	27.8
Sedentary	2.3	7.7	1.8	8.3
None	0.7	7.7	0.2	8.3

Two types of organizations–churches and fraternal groups –accounted for most of the memberships held by the sample population. The statistics in Table 4.31 reveal a number of unexpected situations. It is noteworthy, first, that one fifth of the white population 65 and over did not hold any organizational memberships and were thus presumably outside the influence of formal social organizations. The small proportions affiliated with state societies, recreational organizations, and senior citizens or retired persons' organizations likewise is surprising in view of the importance usually attributed to this aspect of community accommodation to the needs of the retired. This latter finding suggests that tourists rather than permanent residents patronize municipally sponsored sports, clubs, such as shuffleboard, societies of former residents of certain states, and senior citizen organizations. Finally, the relatively poor representation in health organizations, neighborhood groups, and civic groups appears to attest to the failure of the respondents to contribute markedly to community-betterment efforts. In connection with the importance of church and fraternal memberships, which usually have been carried forward from earlier life, a rather limited organizational means of interesting the elderly in the affairs of their communities seems to exist.

Table 4.31. Membership in Organizations, White Population Only, by Sex, Household Survey of the Aged, Pinellas County, 1959.*

	Percentage reporting membership		
Type of organization	Total	Male	Female
Church	66.5	61.1	71.7
Health	1.0	0.8	1.1
Neighborhood group	7.1	6.0	8.0
Civic group	7.9	8.0	7.8
Lodge or fraternal	27.4	39.6	15.4
State society	5.0	3.3	6.7
Recreational	2.6	2.9	2.2
Senior citizen-retired	3.6	3.9	3.3
Other	15.3	13.9	16.8
None	19.3	19.3	19.3

* Percentages in each column total more than 100.0 because 38.6 percent of the respondents belonged to two or more types of organizations.

Close personal relationships. Another indication of the degree to which the respondents had established significant social relationships was provided by answers to the question, "Do you have any close friends or relatives in this community with whom you can talk over personal matters?" and by the subsequent question which clarified the relationships. The results of this inquiry (Table 4.32) showed that somewhat more than four fifths had close friends or relatives in the community in which they resided.

Table 4.32. Presence in the Community of Close Friends or Relatives, by Sex, Household Survey of the Aged, Pinellas County, 1959

Presence of close friends or relatives	Percentages		
	Total	Male	Female
Total	100.0	100.0	100.0
Friends only	30.4	29.3	31.5
Relatives only	23.9	23.0	24.7
Friends and relatives	27.9	27.9	27.8
Friends and/or relatives	(82.2)	(80.2)	(84.0)
None	17.8	19.8	15.9
Not reported	*	—	0.1

* Less than 0.1 percent

Summary

The sample population has been described in terms of certain biosocial and social characteristics and behavioral patterns and, whenever possible, compared with the national population in the same ages. The evidence indicates that the elderly population of Pinellas County differed from the corresponding population of the United States in these respects: The county sample was above the national norms for (1) educational achievement, (2) proportion married and living with spouse, and (3) socioeconomic level; the sample was below the national norms for (4) proportions of single, married-but-separated, widowed, and divorced persons, and (5) proportion in the labor force.

Regarding the social integration of the elderly in the communities, comparable national statistics are not available. The findings reflect a high degree of concern with voting, an impressive amount of social and recreational activity, and the presence in the county of close friends or relatives of a large majority. Organizational memberships were concentrated in churches and fraternal groups, suggesting limited civic involvement. But the same statistics verify that many of those studied exist in a social vacuum, for nearly one fourth were not registered to vote, one fifth did not belong to any organization (including a church), and more than one in six had no close friends or relatives in their communities.

The general theoretical approach has been that migration to an atypical area such as Pinellas County, which functions in a large measure as a residence for retired persons, is selective in regard to a number of population attributes. The matter of migratory selection is reported in detail in the following chapter.

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CHAPTER 5

Differentiating Characteristics of Recent Elderly Migrants

One purpose of this research was to investigate whether the problems associated with chronic illness and aging in Pinellas County differed substantially from those found generally in the nation. A related question is the object of inquiry in this chapter: Are the men and women in the older years who migrate to the county different on the average from the elderly in the United States? If they are different, what are the characteristics that set them off, inferentially, from those who do not engage in such long-distance migrations? Are the differentiating characteristics significant with respect to the health of the migrants? *

The hypothesis was that the newest residents aged 65 and over are significantly different from the national population. This hypothesis was based on the principle of demography that migrants differ from nonmigrants as to certain social characteristics [1, 2]. Studies of migration in general show that age appears to operate most systematically. Whether the movement is over short or long distances and within or across national boundaries, the young usually comprise a major share of the migrants. Differentiation by sex is less uniform and is related to the particular circumstances of the migration. At times migrants also may be distinguished on the basis of race. Finally, marital status may also prove to be a differentiating factor; for example, in the great migrations from Europe to America in the latter part of the nineteenth and early part of the twentieth century, unmarried males often were disproportionately represented.

Apparently little if any attention has been given to the question of migratory selection as related to the elderly. This may have resulted in part from the belief that the matter is unimportant inasmuch as the aged had been found to be the least migratory of those in the several age categories. Evidence from recent decennial censuses makes it clear, however, that in the United States the numbers and proportions of persons in the later years who change residence are of increasing significance. For example, net migration between 1950 and 1960 of those 65 and over on the census day in the latter year is shown by states with the largest gains and losses: Florida, +246,307; California, +166,174; New York, −108,380; Pennsylvania, −86,681; and Illinois, −84,271. This trend undoubtedly is associated with the easier mobility resulting from advances in transportation, the greater "portability" of retirement income, wider knowledge of alternative living arrangements, and added emphasis on the "right" of the individual to a pleasant and satisfying old age. One outcome has been the concentration in certain mild-climate areas, especially in Florida, California, Arizona, and the Gulf Coast states, of large numbers of elderly people whose earlier lives were spent in the northern and eastern states. Inasmuch as the migration to Pinellas County is part of a more generalized phenomenon, the results of the present analysis may have broad significance.

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* As used in this chapter the term migrants refers to persons who change their permanent residence from one geographic area (city, county, state, or country) to another. It should not be confused with the term migratory as applied to persons who periodically move from one temporary residence to another in order to engage in short-term seasonal or occasional employment in different areas.

Method

The procedure followed in testing the hypothesis required comparison according to specified characteristics of (1) the most recent migrants to Pinellas County among the respondents in the household survey of persons aged 65 and over with (2) the population of the United States aged 65 and over in 1959, the survey year, or in 1960, the nearest census year.

The respondents who reported that they had lived in the county four years or less numbered 846 and comprised 33.3 percent of the sample. The assumption is made that this group reflected the social, economic, and health characteristics of those who had broken their community ties at a relatively advanced age in order to take up residence in a new community.

The selection for analytic purposes of the respondents who had resided in the county less than five years when interviewed is a matter of judgment related to the most practical strategy for the purpose. The comparisons could have been based on the smaller group who had moved within two years before the survey, but the number of respondents would have been inadequate for statistical analysis. The nature of the elderly migrants may change somewhat from year to year and increasingly over longer periods, although this seems unlikely in the absence of major economic, political, or social events at the national, state, or local levels which would directly affect the decision to migrate. In any event the use of the cohort of migrants who had arrived in the county from one to four years prior to interview will be understood as somewhat arbitrary although it is believed to be defensible in terms of the probability that these persons represented fairly well the generality of migrants of retirement age who took up residence during the years 1955-1959.

Whenever possible, the national situation is based on data for 1959 from the Current Population Survey or for 1960 from the decennial census of population. However, in some instances where comparable data are not published by the Bureau of the Census, reliance is placed on other national sample surveys.

The technique used to test differences in proportions involved the calculation of a standard normal deviate and is described, for instance, by Johnson[illegible]. The term "statistically significant" indicates that the differences would not have occurred by chance more than five percent of the time, that is, a five-percent probability level of significance.

Distinguishing Biosocial and Social Characteristics of the Recent Migrants

Biosocial Attributes

The recent migrants differed from the elderly of the nation in respect to race, sex, and age.

Race: The differential in favor of white as compared with nonwhite migrants was statistically significant. Nonwhites comprised 0.2 percent as against a national value of 7.6 percent[4]

Sex. Men were decidedly overrepresented among the migrants, comprising 55.7 percent compared with 45.3 percent in the population of the United States aged 65 and over[4]. The differentials in favor of men hold for each five-year category from 65-69 through 85 and over, although they are not statistically significant at ages 65-69 and 80-84.

Age. The elderly who migrated to the county were decidedly younger than would have been true if the movement had not been selective. For example, persons aged 65-69 made up 49.4 percent of the recent migrants although nationally persons in those ages comprised only 37.7 percent of those over age 65[4]. Male migrants were uniformly overrepresented in the lower and underrepresented in the higher age classes; all of the differentials were statistically significant. The same was true of the female migrants for all age classes except 70-74; in all other cases, the differences were significant.

Social Characteristics

Persons over age 65 who ~~had~~ taken up residence in Pinellas County during the past four years were distinguished from their counterparts nationally as to marital status, educational level, household composition, labor force status, income level, welfare status, and retirement status.

Marital status. A much larger share than expected was married, while smaller shares were single, married but separated, widowed, and divorced:

	Migrants	U.S., 1960[5]
Single	4.5%	7.8%
Married, spouse present	76.3	50.9
Married, separated	0.6	2.2
Widowed	17.5	37.5
Divorced	1.1	1.6

The same relationship held for men and women considered separately. For both sexes, the differentials were statistically significant except for the divorced category; for men, except for the divorced, and for women, except for the single and divorced.

When age-specific comparisons were made (using two age classes, 65-74 and 75 and over), the nature of the migratory selection was the same–that is, married persons were present in larger than expected numbers and those in the other marital statuses were less numerous than expected. The differentials by age are statistically significant for the single, married, and widowed for the two sexes considered together; in addition, they are significant for women and men separately at ages 65-74 though not so uniformly for those age 75 and over where much smaller numbers are involved.

Education. The superior educational standing of the migrants is demonstrated by the following comparisons of regular schooling:

	Migrants	U.S., 1959[6]
None	1.1%	6.4%
Elementary school		
Less than 5 years	3.9	13.6
5-8 years	39.2	45.6
High school		
1-3 years	19.4	11.4
4 years	20.3	10.2
College		
1-3 years	7.9	4.9
4 years	6.3	2.9
5 years or more	1.7	1.4

Except for the category of those completing five years or more of college study, all differences are statistically significant.

Household composition. The recent migrants were members of husband-and-wife households to a much greater extent and of one-person households to a much smaller extent than the representative sample of the national noninstitutional population aged 65 and over interviewed in the National Opinion Research Center's survey of the health of the elderly:

	Migrants (N=846)	U.S., 1957[7] (N=1,734)
Respondent only	13.2%	20.1%
Married couple	76.1	52.6
With spouse alone	(70.4)	(36.9)
With spouse and others	(5.7)	(15.7)
Respondent with others	10.7	27.1
Not reported	—	0.2

These differences in the makeup of households, which of course are closely associated with the findings relative to marital status, are statistically significant.

Employment. To a markedly greater extent than was true for the population over 65 in the nation, the migrants to Pinellas County had left the labor force and were not in paid employment:

	Migrants	U.S., 1960[8]
Male		
In labor force	5.5%	30.5%
Not in labor force	94.5	69.5
Female		
In labor force	2.9	10.3
Not in labor force	97.1	89.7

These pronounced differences, of course, satisfy the significance test.

Annual income. As pointed out earlier in this report, technical problems make it difficult to compare directly the income of respondents with that of old people in the nation. For the present purpose, therefore, the annual income of unrelated individuals and of two-person families are considered separately.

The recent migrants clearly were in a better income position than people of the United States aged 65 and over. This may be seen in the following statistics of median income of unrelated individuals:

	Migrants	U.S., 1960[9]
Both sexes	$1,815	$1,053
Male	2,500	1,313
Female	1,031	960

A similar differential prevailed for median income and percentage with family income under $2,000 of husband-and-wife families in the household survey and two-person families in the Current Population Survey:

	Migrants	U.S., 1960[9]
Median income	$3,081	$2,530
Percentage with family income of under $2,000	16.5	35.7

The above differences attain the five-percent level of confidence.

Receipt of public assistance. The proportion of the recent migrants receiving public assistance payments was extremely small, 0.7 percent, far below the average for the United States. For the sample as reported in the National Opinion Research Center study mentioned earlier[10], those receiving public assistance made up 15.0 percent. But this comparison probably is not entirely valid, since eligibility for public assistance depends in part on length of residence. Under the Old Age Assistance program, the state residence requirement is five of the last nine years; under the county welfare program, one year in the county.

Retirement. The migrants were in the retired status to a much greater degree than would have been true for unselected persons over 65, as may be observed in these statistics for men in which comparison is made with the NORC data:

	Migrants	U.S., 1957[10]
Retired	96.2%	59.3%
Not retired	3.8	40.4
Not reported	—	0.2

Morbidity Characteristics

The question whether the migration of elderly persons to Pinellas County as a retirement area of mild climate tends to be selective of persons who are in better or poorer health was approached through examination of prevalence rates for certain conditions. Use of this technique is a compromise necessitated by the lack at present of any generally accepted measures of wellness. The following analysis makes use of rates published by the National Health Survey pertaining to a probability sample of the noninstitutional population living in the United States at the time of interview. In the present context it is necessary to keep in mind the limitations of morbidity data collected by the household survey method.

The health of the recent migrants to Pinellas County as reflected in interview reports of selected chronic conditions and impairments differed in several respects from that of older people in the nation (Table 5.1). However, these differences are not uniformly in the direction of lower or higher prevalence rates. The following observations itemize the ways in which the migrant sample departed from the national norms:

1. The rate for recent migrants reporting one or more of the selected chronic conditions was significantly lower. The National Health Survey rates are for persons with chronic conditions which may or may not be medically attended;* therefore, the real differential is somewhat smaller than that shown in the table. Available evidence suggests that the U.S. rate of 773 per 1,000 would be 10 percent lower if limited to the medically attended; based on this, the differential in favor of the Pinellas County respondents would remain large enough to be statistically significant.

2. The prevalence of high blood pressure (without heart involvement), arthritis and rheumatism, and hearing impairments was significantly lower for the migrants as a group, while the prevalence of bronchitis was significantly higher. In addition, they had lower rates for diabetes and asthma and higher rates for rupture and hernia and visual impairments.

3. Age-specific rates for high blood pressure, diabetes, arthritis and rheumatism, and hearing impairments were lower than the national norms; in the case of high blood pressure and arthritis and rheumatism at ages 65-74, the differentials were statistically significant. On the other hand, with

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* The National Health Survey defines a *medically attended* condition as one "for which a physician was consulted . . . Consulting a physician includes consultation in person or by telephone for treatment or advice . . ." See Reference 11, p. 69. In the county household survey respondents were asked whether they had "been told by a doctor that you now have or have had" any of the listed chronic conditions. Thus conditions reported, in effect, were medically attended, inasmuch as they had had to be diagnosed by a physician within a two-year period prior to interview. For this reason the comparative data for the nation are those for medically attended conditions except in those cases where the National Health Survey has not published such statistics separately.

Table 5.1. Prevalence Rates per 1,000 Persons for Selected Chronic Conditions and Impairments, Recent Migrants to Pinellas County, 1959, and the Population Aged 65 and Over, U.S., 1957-61, by Age and Sex. (Rates are for persons medically attended.) (1)

Chronic conditions and impairments and sex	Age 65 and over			Age 65-74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Both sexes									
Heart disease (2)	149	147		141	128		184	183	
High blood pressure (2, 3)	102	128	x	100	127	x	110	128	
Diabetes (4)	35	40		37	43		31	35	
Arthritis and rheumatism (4)	165	215	x	165	207	x	166	231	
Rupture or hernia (4)	67	47		63	43	x	86	53	
Asthma and hay fever (5, 6)	30	39		34	(*)		12	(*)	
Bronchitis (5, 7)	33	18	x	34	(*)		31	(*)	
1+ chronic conditions (8)	602	773 (9)	x	599	(*)		613	(*)	
Visual impairments (10, 11)	54	43		37	22	x	129	83	x
Hearing impairments (11, 12)	142	181	x	122	130		227	277	
Male									
Heart disease (2)	163	145		154	138		200	158	
High blood pressure (2, 3)	70	70		59	69		116	73	
Diabetes (4)	49	33		51	34		42	31	
Arthritis and rheumatism (4)	108	154	x	106	155	x	116	152	
Rupture or hernia (4)	104	83		98	75		126	102	
Asthma and hay fever (5, 6)	32	55 (9)	x	35	(*)		21	(*)	
Bronchitis (5, 7)	28	20 (9)		27	(*)		32	(*)	
1+ chronic conditions (8)	582	752 (9)	x	580	(*)		589	(*)	
Visual impairments (10, 11)	53	38		35	(*)		126	(*)	
Hearing impairments (11, 12)	168	(*)		141	(*)		274	(*)	

Table 5.1. (Continued)

Chronic conditions and impairments and sex	Age 65 and over			Age 65-74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Female									
Heart disease (2)	131	148		124	119		162	202	
High blood pressure (2, 3)	141	176		150	179		103	171	
Diabetes (4)	19	46	x	20	50	x	15	39	
Arthritis and rheumatism (4)	237	267		238	254		235	292	
Rupture or hernia (4)	21	16		20	16		29	16	
Asthma and hay fever (5, 6)	27	39 (9)		33(*)	(*)		—	(*)	
Bronchitis (5, 7)	40	22 (9)	x	42	(*)		29	(*)	
1+ chronic conditions (8)	627	791 (9)	x	622	(*)		647	(*)	
Visual impairments (10, 11)	56	47		39	(*)		132	(*)	
Hearing impairments (11, 12)	109	(*)		98	(*)		162	(*)	

*Rates not available.

1. The national data have been taken or computed from Reference 13, tables 2 and 3; Reference 12, tables 1 and 2; Reference 14, table 1; Reference 15, table 1; Reference 16, table 1; Reference 17, tables A, B, and E; and Reference 11, table 13.
2. Prevalence rates for heart disease and high blood pressure were computed from published data (Reference 12, tables 1 and 2) by making the assumption that the proportions never medically attended for both sexes, male, and female prevailed also for persons aged 65 and over, 65-74, and 75 and over. Rates are for July 1957-June 1958.
3. High blood pressure without heart involvement.
4. National rates are for July 1957-June 1959.
5. National rates are for July 1957-June 1958.
6. Pinellas County rates are for asthma only.
7. The National Health Survey check list used in interviews employs the term "chronic bronchitis."
8. National rates are for July 1957-June 1959.
9. The national rates are for total with conditions; rates for the medically attended not available.
10. The Pinellas County data represent persons who had difficulty in reading newspapers or magazines because of poor vision with or without glasses; the data from the National Health Survey are for those "unable to read ordinary newspaper print with glasses," who are characterized as having severe impairments.
11. National rates are for July 1959-June 1961.
12. The Pinellas County rates are for persons who reported moderate hearing loss in one ear or greater impairment or for whom the interviewer reported moderate or more severe hearing loss. In the National Health Survey data pertain to those who reported hearing impairment in response to the item, "Deafness or serious trouble with hearing," on a Check List of Selected Impairments handed to them by the interviewer.

age controlled, heart disease, rupture and hernia, and visual impairments were more prevalent among the migrants at ages 65-74 (the two latter conditions significantly), and rupture or hernia and visual impairments at age 75 and over (the latter significantly).

4. Among males, the prevalence rates for one or more chronic conditions, arthritis and rheumatism, and asthma were significantly lower in the migrants. (It should be noted, however, that the Pinellas County data are for asthma only, those for the nation for asthma and hay fever.) Higher prevalence rates were found for the male migrants in the cases of heart disease, diabetes, rupture or hernia, bronchitis, and visual impairments.

5. The age-specific rates for males with arthritis and rheumatism were lower for migrants in both age classes, significantly at ages 65-74; a lower rate for high blood pressure without heart involvement prevailed at ages 65-74. In contrast, higher rates were found in the county sample for heart disease, diabetes, and rupture and hernia in both age classes, and a higher rate for high blood pressure at 75 and over; none of these differentials reached the .05 level of significance, however.

6. The prevalence rates for one or more chronic conditions and for diabetes were significantly lower among female migrants. Moreover, the rates for heart disease, high blood pressure, arthritis and rheumatism, and asthma were lower than national rates, though not at the required level of significance. But the rate for bronchitis was significantly higher and the rates for rupture and hernia and visual impairment were above the rates for females aged 65 and over in the nation.

7. The age-specific rates for females with high blood pressure, diabetes, and arthritis and rheumatism were lower in both age classes than the U.S. rates; that for heart disease was lower at age 75 and over. Of these differentials, only the lower rate for diabetes at ages 65-74 was statistically significant. Higher than expected rates prevailed among the migrant females for rupture and hernia in both age classes and for heart disease at ages 65-74.

In summary, the elderly recent migrants to Pinellas County had fewer medical problems as measured by reports of chronic conditions than their national counterparts but, on the other hand, the prevalence rates for certain specific conditions were higher than those for the elderly in the nation.

One may reason that the higher prevalence of chronic conditions overrepresented in the sample might have resulted from movements into the county that were dictated by health problems for which a mild climate seemed indicated. In order to discover the validity of this inference, rates were computed separately for those who stated they had come to the area for reasons of health and for those whose migration was attributed to other reasons.

Of the 846 recent migrants, 128 (15.1 percent) specified their health as a principal reason for moving to Pinellas County, while the remaining 718 persons gave other reasons without mention of health as a motivating factor.

Those who had migrated for other than health reasons tended to have lower prevalence rates for most conditions (Table 5.2). For the group as a whole, the number with one or more chronic conditions was significantly lower, as were the numbers with high blood pressure, arthritis and rheumatism, and hearing impairments. These migrants had lower rates for heart disease, diabetes, and asthma, though the differences did not attain levels of statistical significance. On the other hand the prevalence of rupture and hernia, bronchitis, and visual impairments was greater. It is of interest, moreover, that the rates were lower than the national norms for all conditions with prevalence rates in excess of 100 per 1,000 persons, that is, for arthritis and rheumatism, hearing impairments, heart disease, and high blood pressure; and that the differences in the case of three of these four major conditions were significantly lower. The combined prevalence rate for the three conditions found to be overrepresented (rupture and hernia, visual impairments, and bronchitis) was 108, less than that for high blood pressure alone.

The males whose migration was not occasioned by poor health were somewhat at a disadvantage as compared with the corresponding females (Table 5.2). The sex differential is particularly striking at age 75 and over.

Comparison of the chronic disease prevalence rates with those of the United States for the 128 recent migrants who attributed their move to health problems shows clearly that they were in decidedly poorer health (Table 5.3). For the group, rates for the selected chronic conditions and for those with one or more chronic conditions were higher than the national levels, except for diabetes, for which the rates were virtually identical. For heart disease, rupture or hernia, and hearing impairments, the differences were statistically significant despite the small sample size. For males 65 and over, all the comparable rates were higher, significantly for heart disease, visual impairments, and one or more chronic conditions; for females 65 and over, all the rates were higher except for heart disease, diabetes, and hernia. With very few exceptions, the age-sex-specific rates of those who had moved to the county on account of health exceeded those of the corresponding classes nationally.

Interpretation

These findings as to the selectivity of the migratory movement of people who have attained or passed age 65 suggest several interrelationships among the social and health factors. The results indicating that the migrants were above average with regard to the comparable biosocial and social characteristics are congruent with common-sense interpretations. The predominance of persons aged 65-69 would logically be related to fairly recent retirement which created the opportunity to change residence; these "younger" elderly people also on the average had relatively large energy reserves for the task of readjustment in a new place. Moreover, people most recently retired usually have higher average income due to the trend toward increased pensions based on earnings in an economy of rising price levels and greater benefits under governmental insurance plans.

The generally higher socioeconomic levels of the movers probably are directly related to the financial ability to effect an expensive change of residence; to an above-average knowledge of living arrangements and places; and to definition of retirement as earned leisure to be enjoyed rather than a time to restrict activity and husband strength while awaiting the end of life.

The three closely associated characteristics, higher sex ratio, overrepresentation of married persons, and predominance of households made up of married pairs, strongly suggest that the migrant stream is composed mainly of married couples. A corollary is that the nonmarried--single, widowed, divorced, and married persons separated from their spouses--play but a small part in the total migratory activity. The process of adjustment in an unfamiliar community would appear less threatening to married couples who depend upon each other for companionship and mutual support in dealing with problems that arise, and more threatening to an elderly person alone.

The low frequency of paid employment and the high frequency of retirement was compatible with the description of Pinellas County as a residential area for those who have left the work force; nevertheless, the degree to which people were

Table 5.2. Prevalence Rates per 1,000 Persons for Selected Chronic Conditions and Impairments, Recent Migrants to Pinellas County Who Moved for Reasons Other than Health, 1959, and the Population Aged 65 and Over, U.S., 1957-61, by Age and Sex. (Rates are for persons medically attended.)**

Chronic conditions and impairments and sex	Age 65 and over			Age 65 - 74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Both sexes									
Heart disease (2)	127	147		112	128		187	183	
High blood pressure (2, 3)	92	128	x	93	127	x	86	128	
Diabetes (4)	35	40		36	43		29	35	
Arthritis and rheumatism (4)	150	215	x	150	207	x	151	231	x
Rupture or hernia (4)	63	47		59	43	x	79	53	
Asthma and hay fever (5, 6)	26	39		29	(*)		14	(*)	
Bronchitis (5, 7)	31	18		29	(*)		36	(*)	
1+ chronic conditions (8)	560	773 (9)	x	554	(*)		583	(*)	
Visual impairments (10, 11)	50	43		33	22		122	83	
Hearing impairments (11, 12)	118	181	x	102	130		187	277	x
Male									
Heart disease (2)	124	145		107	138		195	158	
High blood pressure (2, 3)	65	70		61	69		78	73	
Diabetes (4)	47	33		49	34		39	31	
Arthritis and rheumatism (4)	96	154	x	97	155	x	91	152	
Rupture or hernia (4)	96	83		91	75		117	102	
Asthma and hay fever (5, 6)	28	55 (9)	x	29	(*)		26	(*)	
Bronchitis (5, 7)	23	20 (9)		19	(*)		39	(*)	
1+ chronic conditions (8)	523	752 (9)	x	521	(*)		532	(*)	
Visual impairments (10, 11)	47	38		29	(*)		117	(*)	
Hearing impairments (11, 12)	132	(*)		113	(*)		208	(*)	

Table 5.2. (Continued)

Chronic conditions and impairments and sex	Age 65 and over			Age 65 - 74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Female									
Heart disease (2)	130	148		119	119		177	202	
High blood pressure (2, 3)	123	176	x	130	179	x	97	171	
Diabetes (4)	21	46	x	22	50	x	16	39	
Arthritis and rheumatism (4)	214	267	x	211	254		226	292	
Rupture or hernia (4)	24	16		22	50	x	16	39	
Asthma and hay fever (5, 6)	24	39 (9)		30	(*)		—	(*)	
Bronchitis (5, 7)	39	22 (9)	x	41	(*)		32	(*)	
1+ chronic conditions (8)	602	791 (9)	x	593	(*)		645	(*)	
Visual impairments (10, 11)	54	47		37	(*)		129		
Hearing impairments (11, 12)	102	(*)		89	(*)		161	(*)	

** For footnotes, see Table 5.1.

Table 5.3 Prevalence Rates per 1,000 Persons for Selected Chronic Conditions and Impairments, Recent Migrants to Pinellas County Who Moved for Health Reasons, 1959, and the Population Aged 65 and Over, U.S., 1957-61, by Age and Sex. (Rates for persons medically attended.)**

Chronic conditions and impairments and sex	Age 65 and over			Age 65 - 74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Both Sexes									
Heart disease (2)	273	147	x	298	128	x	167	183	
High blood pressure (2, 3)	156	128		135	127		250	128	
Diabetes (4)	39	40		38	43		42	35	
Arthritis and rheumatism (4)	250	215		250	207		250	231	
Rupture or hernia (4)	94	47	x	87	43	x	125	53	
Asthma and hay fever (5, 6)	47	39		58	(*)		—	(*)	
Bronchitis (5, 7)	47	18		58	(*)		—	(*)	
1+ chronic conditions (8)	836	773 (9)		846	(*)		792	(*)	
Visual impairments (10, 11)	78	43		58	22		167	83	
Hearing impairments (11, 12)	273	181	x	231	130	x	458	277	
Male									
Heart disease (2)	341	145	x	373	138	x	222	158	
High blood pressure (2, 3)	94	70		45	69		278	73	x
Diabetes (4)	59	33		60	34		56	31	
Arthritis and rheumatism (4)	165	154		149	155		222	152	
Rupture or hernia (4)	141	83		134	75		167	102	
Asthma and hay fever (5, 6)	47	55 (9)		60	(*)		—	(*)	
Bronchitis (5, 7)	47	20 (9)		60	(*)		—	(*)	
1+ chronic conditions (8)	847	752 (9)		60	(*)		—	(*)	
Visual impairments (10, 11)	82	38	x	60	(*)		167	(*)	
Hearing impairments (11, 12)	329	(*)		269	(*)		556	(*)	

Table 5.3 (Continued)

Chronic conditions and impairments and sex	Age 65 and over			Age 65-74			Age 75 and over		
	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level	Migrants	U.S.	Sig. at .05 level
Female									
Heart disease (2)	140	148		162	119		—	202	
High blood pressure (2, 3)	279	176		297	179		167	171	
Diabetes (4)	—	46		—	50		—	39	
Arthritis and rheumatism (4)	419	267	x	432	254	x	333	292	
Rupture or hernia (4)	—	16		—	16		—	16	
Asthma and hay fever (5, 6)	47	39 (9)		54	(*)		—	(*)	
Bronchitis (5, 7)	47	22 (9)		54	(*)		—	(*)	
1+ chronic conditions (8)	814	791 (9)		838	(*)		667	(*)	
Visual impairments (10, 11)	70	47		54	(*)		167	(*)	
Hearing impairments (11, 12)	163	(*)		162	(*)		167	(*)	

** For footnotes, see Table 5.1

not in employment and conceived of themselves as having left the active working category was impressive. Migration had not been in response to the "pull" of economic opportunity; in this respect it differed diametrically from similar movements of those still earning a living. Economic motivation was a factor only where the belief existed that income would go further because of expected lower living costs in the county.

If prevalence of chronic disease as reported in interviews can be considered a valid and reliable indicator, then the recent migrants were in better health than the generality of persons of their sex and age in the population of the United States. But the differentiation into those for whom improvement or maintenance of their own health was a motive and those for whom it was not, at least, a major factor, proves to be crucial. The "health movers" were a disadvantaged class, with prevalence rates for the selected chronic conditions and impairments above the national norms. In contrast, the "non-health movers" had rates well below those of their counterparts in the nation.

Earlier, it was pointed out that persons whose movement to the county was not for health reasons were less likely to have conditions which are the more common causes of death. This group was below the national level for prevalence of heart disease, high blood pressure, diabetes, and arthritis and rheumatism; it was above the national norms for rupture and hernia and for bronchitis. In 1960 the age-specific death rates per 100,000 population for the comparable selected causes in the United States were[18]:

	65-74 years	75-84 years	85 years and over
Diseases of the heart (400-402, 410-443)*	1,740.5	4,089.4	9,317.8
Other diseases of the heart (430-434)	58.9	148.6	363.8
Hypertensive heart disease (440-443)	174.9	450.2	984.2
Diabetes mellitus (260)	93.4	163.7	181.7
Arthritis and rheumatism**	—	—	—
Bronchitis (500-502)	9.9	16.1	32.7

* Numbers after causes of death are category numbers of the Seventh Revision of the International Lists, 1955.

** Not included among the 59 selected causes of death published by the U. S. Public Health Service in Reference 18.

The combined death rates for the cardiovascular diseases and diabetes which were the underrepresented conditions in the survey population were 2,067.7, 4,851.9, and 10,847.5 for the three older age groups. Thus persons with these conditions are less likely to move to the county than those whose afflictions are less grave in nature. In contrast bronchitis and arthritis and rheumatism, which were commonly reported chronic conditions, appeared to have been factors encouraging migration to a milder climate.

The differentials with respect to visual and auditory impairments pose a difficult problem for interpretation. As previously stated, for the entire 846 recent migrants visual impairments were significantly higher than the national rates with age controlled, while hearing impairments were significantly lower and consistently (but not significantly) lower with age controlled. No explanation for these findings appears obvious. But definitions of the impairments as used in the Pinellas County study and the National Health Survey (detailed in footnotes 9 and 11, table 3.1) differed somewhat.

Summary

A comparison has been made of 846 recent migrants (one to four years' residence) to Pinellas County, Florida, with the population of the United States aged 65 and over, holding sex and age constant when the national data made this feasible, in an effort to test the hypothesis that long-distance, elderly migrants are a selected class. The hypothesis has been confirmed; the analysis demonstrates that the migration had tended to select (1) white persons, males, and those aged 65-69; (2) married persons rather than the single, widowed, separated, and divorced; (3) those of above-average educational level; (4) two-member rather than one-member households; (5) retired persons who had not reentered the labor force; and (6) those with higher than average income. The health of the recent migrants, as measured by prevalence rates for chronic conditions and impairments, was superior to the national norms; and the favorable differential was even greater for the majority who did not cite health as a factor motivating movement to the county.

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CHAPTER 6

Chronic Conditions, Impairments, and Limitation of Activity and Mobility

In previous chapters the objectives and methodology of this study have been outlined, and the social characteristics of the sample population described as the background for consideration of the health problems of this aged population. This chapter is the first of two devoted mainly to an examination of the survey data dealing with morbidity and health-care aspects of the findings. In the simplest terms, the objectives of this phase of the study were to determine how well or how sick the aged persons were, to identify the kinds of illnesses, defects, and disabilities experienced, and to discover what actions they have taken to satisfy their medical care needs.

Several community and national household surveys have been reported which attempted by methods somewhat similar to those employed in the present investigation to establish prevalence rates for selected chronic diseases and impairments. Of particular value are the reports of the continuing National Health Survey, conducted by the U. S. Public Health Service, which present national prevalence rates for selected chronic conditions. Since these findings may be represented as national norms, they will be offered for comparison with the Pinellas County findings.

For the survey and analysis, health status was defined as the degree to which the individual was free from acute and chronic diseases and physical impairments as reported in interviews. The concept of health or "wellness" is difficult to make operational and, as a consequence, more commonly populations are described in terms of the medical conditions present rather than the absence of disease or disability.

In addition to determining the prevalence rates for certain specific chronic diseases and impairments, the study population was examined to ascertain how well those with or without these conditions met the demands of daily activity and independent living. Recognizing that a relatively small percentage of individuals in any community require a disproportionate amount of health and welfare services, those groups disadvantaged in terms of chronic illness and physical disability were studied in detail. Particular attention was given to the circumstances that may have had a bearing on the preventive or remedial actions taken, or should have been taken, to alleviate their problems.

The household survey has been used mainly (1) to determine prevalence rates of specified conditions and (2) to obtain certain other knowledge required for community health planning. The latter was the principal objective in the present survey, and it was believed that the validity and reliability of responses obtained by this method would satisfy the stated requirements. The household interview survey was used cross-sectionally in this instance and a retrospective dimension was added by using a two-year observation period for certain questions.

Techniques and Concepts

The techniques employed in eliciting specific classes of information and the concepts of central importance to the overall purposes of the study are described in order to clarify the nature of the observations. Most of the morbidity data was collected by the use of two techniques. First, a list of 50 common symptoms of chronic illness was read to the respondent, who had been instructed to answer in the affirmative for any of the symptoms he had at the time of interview. Second, using a list of 23 common conditions, including accidents and operations, the respondent was asked if a doctor had told him that he then had or had had during the preceding two years any of the listed conditions.

Symptoms Check List

The "symptoms technique," a modification of an approach used earlier in surveys of illness as developed by Schuler and his co-workers[1,2], is statistical as distinguished from the clinical technique more familiar to medical practitioners. The Michigan sample included persons of all ages and acute as well as long-term conditions; however, the Pinellas County study was limited to older people and focused on chronic conditions. Observations in the Michigan study were validated by medical examinations of a random sample of persons to whom the schedule had been administered. In 80 percent of the cases there was agreement between the symptoms approach and the results of the medical examination[2] and this was judged sufficient to warrant use of the technique. In the Indian Health Survey conducted by the Public Health Service[3] the validity of the approach was tested, with a general correlation being observed between the number of symptoms found in the interview survey and the number of medical diagnoses revealed by clinical examination. Recently Rosenfeld and his associates[7] have noted that "the symptom survey should remain a valuable tool for exploring unmet need, for several reasons: (1) It is the recognition of symptoms by the individual that generally motivates a person to seek medical care. (2) Certain symptoms are often associated with serious illnesses which deserve medical attention. (3) Disabling symptoms require attention even though they may not be accompanied by physical or physiological changes discernible by usual diagnostic procedures. (4) While the patient may not be able to report illnesses by diagnosis, he should be able to describe symptoms he had experienced, whether or not medical care has been received."

The symptoms approach can be used in a household interview survey as a screening device for chronic conditions. Feldman[2] says, "It may well be possible to design batteries of morbidity questions with adequate sensitivity and selectivity to serve as a screening device. Higher sampling ratios would be used in the strata of suspected cases than in the stratum composed of those who are ostensibly well. If the results of the screening device correlate reasonably well with the findings of clinical examination and if the sampling ratios in the various strata are in proper proportion to each other, great gains can be attained in the efficiency of the clinically examined sample."

The check list of 50 common symptoms (Appendix B, Pp. 6-9) suggestive of chronic impairment for inclusion in the interview schedule was developed in seven groups: general nonspecific, neuromuscular, gastrointestinal, cardiovascular-respiratory, musculoskeletal, genitourinary, and foot conditions (to be specified). If the respondent verified that he suffered from a given symptom, he was asked if this complaint was now under treatment. An example of the use of the "symptoms technique" and its application to collecting morbidity data is supplied by a respondent who indicated that he now had or had had heart trouble. If this individual answered in the affirmative to one or both of the following questions,

"Does shortness of breath prevent you from walking upstairs or as far as 2 or 3 city blocks?"

"Are your feet or ankles swollen at bedtime?"

it was reasonable to assume that he did have heart trouble and was suffering from some degree of cardiac failure. He was no doubt in a much more serious condition than the individual who reported a diagnosis of heart trouble but had none of the symptoms listed that suggested cardiovascular system disease.

Chronic Conditions Check List

The check list of chronic conditions included most of the high prevalence diseases, such as heart trouble, high blood pressure, stroke, and arthritis and rheumatism (Appendix B, p. 16). Each respondent was asked, "Have you been told by a doctor that you now have or have had any of the following conditions during the past two years?" The list was then read to him. Affirmative answers were followed by a series of eleven questions to determine whether during the past two years the reported conditions had been treated by a medical doctor, an osteopath, other practitioner, or in a private or public medical clinic; whether hospitalization, nursing home care, full-time or visiting nurse care at home had been required; and whether the condition was now under treatment. In addition, the limitation of mobility imposed by the condition was measured in terms of confinement to the house, a chair, or bed and limitation of activity in terms of functional disability. Finally, the duration of the disability was recorded in periods varying from less than one week to two years or more. Following this sequence of items, an additional question was asked about any other conditions under medical care; it disclosed occasionally the presence of some acute condition.

Special sections of the schedule were designed to obtain the information necessary to appraise the status of vision and hearing and to determine the condition of the teeth and the existence of dental problems.

At an earlier point in the schedule a comprehensive question dealt with the activities which the respondent engaged in "fairly regularly now." At the end of the schedule provision was made for recording the interviewer's impressions of the respondent's activities, appearance, manner of walking and gait, interest, attitude, comprehension, physical appearance and nutrition, and obvious hearing loss or speech defects. By utilizing these four sections, activities, symptoms, chronic conditions, and interviewer impressions, it was possible to edit the schedules for internal consistency. For example, if an individual reported participation in swimming and golf, but had symptoms of heart trouble, admitted to hypertension and looked obviously infirm to the interviewer, it was unlikely that the answers were reliable. When such inconsistencies were discovered, a conference with the interviewer and, if necessary, a return visit to the respondent resolved these discrepancies. The sequence of these four sections was established to permit these checks. The intent was to reduce the possibility that statements about activities and symptoms might be biased if the items had been arranged in the reverse order. It was reasoned that if an individual had heart trouble, he might think in terms of the symptoms he should have and the activities appropriate to both of these answers.

Validity and Appropriateness of the Household Interview Survey Method

In spite of the care with which a household interview survey is conducted, this method for collecting morbidity and social data has certain well-recognized and inherent limitations. Some of these have been discussed. It is important to consider the 1957 report of the study of chronic disease conducted in Baltimore. After comparing morbidity reported by household informants with the results of a clinical evaluation of a subsample of the population involved, "the study staff was forced to conclude that the one-time household interview–at least as conducted in this instance–is, when used alone, of little value in measuring the prevalence of all diagnosable chronic disease, or even of diagnosable chronic disease known by the respondent to exist." It was found that "less than one fourth of diagnosable chronic conditions were reported in terms meeting the broad definition of match with clinical evaluation diagnoses. When conditions which could not have been reported are excluded, the proportion of evaluation diagnoses matched by interview reports increases only to 3 out of 10 . . . The completeness of reporting varied widely among diagnoses." The possible reasons for these results which are discussed in the Baltimore report include (1) the deliberate withholding of information, (2) failure to remember, (3) not being under medical supervision, (4) intentional withholding of information from the patient by the physician, (5) the respondent's lack of knowledge of the conditions affecting other family members (a difficulty not applicable in the Pinellas County survey), (6) respondents' differing concept of what constitutes disease, (7) withholding of information concerning diseases considered to be socially stigmatic, such as syphilis, mental disorders, and tuberculosis, (8) sex-organ diseases, and (9) the relative mildness of severity of much disease. The major conclusion is that the reporting of morbidity by this method underestimates substantially the true prevalence of diagnosable disorders.

In a thorough review of the household interview survey, Feldman considered this technique for the collection of morbidity data and discussed its merits and the accuracy of diagnoses derived from interview surveys. Various aspects are dealt with, including the validity of response and how this may be affected by the quality of the sample, refusal rates, single visit versus periodic visits, and self-respondents versus household informants. In the discussion of diagnoses he stated that "it is reasonable to take the results of autopsy and the laboratory as the standard of diagnostic accuracy for epidemiological investigation. This is in no sense to imply that information bearing on the subjective component of illness will in the end turn out to be any less valuable to society than knowledge of organic processes–it is simply that the functions of the two types of knowledge are different and we are here concerned with medical research rather than social planning." Further, "It should be noted that in inquiries operating on the level of gross ratings of health, medical validity may not always be necessary." He observed that behavior toward health by the individual is determined in part by his judgment rather than by more objective criteria and that the discrepancy between clinical findings and the judgments expressed in an interview need not invariably constitute a serious problem. He supported this position by stating in effect that there is the likelihood of somewhat greater agreement between the survey responses and the evaluation of the respondent's health by his own regular doctor as compared to the more stringent criteria used in a single-contact visit for clinical evaluation. In a concluding statement regarding household interviews he added, "Actually, these surveys [household interviews] had as their objectives primarily the provision of data for public health purposes rather than for purposes of medical research. Conceivably the attending physician's diagnosis of markedly disabling conditions is a suitable criterion for the validity of some types of public health data." However, his final conclusion was that while the household interview alone as a technique for epidemiologic studies of disease leaves much to be desired from the point of view of diagnosis, nevertheless, designed with adequate sensitivity and selectivity, it might serve as the first step in a double-sampling procedure. It would be followed by clinical examinations of additional samples of those individuals or groups that, based on the interview data, are obviously suspect for chronic diseases.

A two-year recall period was used to provide a greater opportunity for the respondent to have had a medical incident, that is, illness and medical care. The interpretation of household interview data and its significance rests on the recognition of limitations of ~~the~~ method and on the purposes for which conclusions based on these data are to be used. The wisdom of using a two-year recall period for this or any other age group may be questioned because of the notable difficulty of remembering accurately for this length of time. The long recall period has been shown by other somewhat similar surveys to result usually in underreporting of incidents. Too, there is the increased possibility of "honest" error in respect to the accurate recall of experiences, their date and order. To some extent at least, this error may have been offset by the fact that individuals judged physically or mentally incapable of response to the questions were excluded by definition from the universe on the basis of interviewer observation and by review and editing of questionable schedules. This type of reasoning begs the question of accurate medical diagnosis, but members of this retired and unemployed population had enough "leisure time" to be preoccupied with their own health and medical services, and it seemed a reasonable premise that illnesses and expenditures would make a deep impression on their memory. With full recognition of the dangers and limitations of data obtained by this technique, the investigators believed that there was adequate response validity to enable them to pursue the objectives of the study.

Many questions were raised in the report of the Baltimore Study[11] regarding the validity of the household interview for the determination of morbidity rates. From a practical point of view, the objectives and the use of findings in the Baltimore and Pinellas County studies were not similar. The development of accurate prevalence rates for chronic illness of all degrees of severity is beyond the scope of the household interview method. Nevertheless, when used as an indicator of known and recognized disease or disability, it provides broad knowledge about a population in terms of what they see and feel as their medical and health-related problems. It also gives insights of a medical and social nature which aid in sound planning for community health services.

Presumably, withholding of information may have occurred in a small percentage of interviews (3.9 percent) because of religious beliefs. In some instances, informants thought that this "health survey" was directly related to the much publicized campaign for Social Security-linked medical care for the aged. Under these circumstances an exaggeration of health problems and need for medical care was a possibility; failure to remember conditions and "medical incidents" may have offset this tendency. In general, respondents were ready and eager to report their felt and recognized problems, and many of them exhibited hospital accounts and drug bills to support their statements.

The occurrence of chronic conditions was recorded only when the respondent had been told of them by a doctor. About 80 percent stated that they had a private or family physician in the community, suggestive but not factual evidence of medical attention. The degree to which physicians withhold information from patients is unknown. In some cases symptoms disclosed presumptive evidence of chronic conditions that the respondent did not consider disease.

Health Status of the Elderly

General Comments

Many groups have been interested in the health of older people for some time, motivated by the genuine need to obtain a valid picture of the older person and his health problems for the purpose of providing medical care, hospitalization, nursing-home care, drugs, and other health-related services. The emergence of chronic illness as the number one health problem in the nation and the association of such illness with aging has tended to focus the attention of physicians, organized medicine, hospital administrators, welfare departments, voluntary health agencies, and official health agencies on the older person as a medical entity.

The interest of public health in this situation grew naturally out of the federal, state, and local agencies' major responsibility for the total health of the community. A knowledge of the aged in respect to their medical problems is essential for community health planning to meet the growing needs of this increasing segment of the population.

The arbitrary use of age 65 as the boundary between mature adulthood and old age has obvious shortcomings. Many individuals beyond age 65 clearly are misclassified if designated aged. Nevertheless, a more or less typical picture, or stereotype, has been developed by both professional workers and the public at large. It includes characteristics of infirmity, physical impairments, and senility. Apparently this stereotype was formed through contacts with the elderly persons who do fit the description and who comprise the "hard core" cases so often seen on hospital wards and in welfare offices. Measured against the entire older population, as its health situation is revealed in surveys of probability samples, this image is patently in error, yet it is the picture in the minds of a great many people when they think of old people collectively.

Prevalence of Chronic Diseases

Although this study is concerned with the level of health of the sample population, it was necessary to turn to prevalence of chronic conditions as the only feasible method of approaching the matter. In this section, the same procedure is followed as that adopted by the National Health Survey of using prevalence of *one or more chronic diseases* (1+ chronic diseases) in a population as an index of departure from health. Obviously, this measure has no validity if applied on an individual basis, especially in view of the highly significant distinction between chronic *condition* and chronic *illness*, but it constitutes a valuable technique for use with broad population groups.

In the following analysis the terms (1) chronic diseases, (2) impairments, and (3) limitations of activity and mobility are used to designate categories of chronic conditions. *Chronic diseases* refers to such conditions as heart disease, hypertension, diabetes, and arthritis and rheumatism. *Impairments* comprise hearing and vision defects. *Limitations of activity and mobility* (defined operationally below) refers to specified disabilities of function and movement. In the analysis which follows, these three categories of chronic conditions are mutually exclusive; for example, the term "one or more chronic diseases" excludes both impairments and limitations of activity and mobility.

Chronic diseases diagnosed by physicians are extremely common among persons over 65 years of age (Table 6.1) and two thirds of those in the sample reported having one or more of these diseases. The rate was somewhat higher for those aged 75 and over compared with those aged 65-74. Although the differences in prevalence rates [illegible] men and women were small, those for women were higher in both age groups.

Table 6.1. Number of Persons with 1+ Chronic Diseases and Rates per 1,000 Persons, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

Age and sex	Total	With 1+ diseases	
		Number	Rate
Total 65+	2,544	1,677	659
Male	1,246	805	646
Female	1,298	872	672
65 - 74	1,776	1,139	641
Male	847	534	630
Female	929	605	651
75+	768	538	701
Male	399	271	679
Female	369	267	724

The relation of income level to prevalence of chronic diseases is presented in Table 6.2. Consistently those in the lowest income class had higher rates. There was no significant difference, however, between those with incomes of $1,500-$2,999 and those in the $3,000+ class. The increasing prevalence with age holds only for the two lower income classes; there is no such increase in those with incomes of $3,000 or more.

Table 6.2. Number of Persons with 1+ Chronic Diseases and Rates per 1,000 Persons, by Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Age and annual income	Both sexes			Male			Female		
		With 1+ dis.			With 1+ dis.			With 1+ dis.	
	Total*	No.*	Rate	Total*	No.*	Rate	Total*	No.*	Rate
Total 65+									
Under $1,500	552	398	721	167	108	647	385	290	735
$1,500 - $2,999	989	641	648	521	339	651	468	302	645
$3,000+	896	586	654	513	340	663	383	246	642
65 - 74									
Under $1,500	327	226	691	88	54	614	239	172	720
$1,500 - $2,999	707	442	625	348	212	610	359	230	641
$3,000+	668	439	657	375	255	680	293	184	628
75+									
Under $1,500	225	172	764	79	54	684	146	118	808
$1,500 - $2,999	282	199	706	173	127	734	109	72	661
$3,000+	228	147	645	138	85	616	90	62	689

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for age-sex categories shown in Table 6.1.

The role of income specific for sex and age was studied also, and in the lowest income group chronic diseases were more frequently reported by women. This difference was consistent for the younger and older age groups. There were no consistent differences between men and women in the two higher income groups.

It would be useful to compare the county and national rates for prevalence of one or more chronic diseases; however, this cannot be accomplished because the National Health Survey has not published such data separately for persons who were medically attended.

Vision and Hearing Impairments

The importance to the elderly individual of adequate vision and hearing is generally recognized. Serious loss of either of these faculties frequently makes the difference between functioning independently in the community and considerable dependence on other people.

Vision

In the present survey, the existence of serious visual defects was sought by the use of the question, "Is your sight or vision so poor that you find it difficult to read newspapers or magazines?" The interviewer explained that the inquiry related to problems experienced whether or not glasses were used by the respondent.

As measured by this criterion, significant visual impairment was reported by nearly one person in ten (Table 6.3). The prevalence rate for males was considerably lower than that for females. Rates increased sharply with age for both sexes. Of women aged 75 and over, one in five reported this impairment.

Table 6.3. Number of Persons with Visual Impairment and Rates per 1,000 Persons, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

Age and sex	Total	With visual impairment	
		Number	Rate
Total 65+	2,544	245	96
Male	1,246	106	85
Female	1,298	139	107
65 - 74	1,776	106	60
Male	847	42	50
Female	929	64	69
75+	768	139	181
Male	399	64	160
Female	369	75	203

The statistics in Table 6.4 disclose the consistent inverse relationship between visual impairment and amount of annual income. Without exception, and within each age-sex category, persons with lower income reported serious difficulty with vision in greater proportion than those with higher income. This was true for each sex. The higher rates for women were observed when income was held constant, though at ages 65-74 in the $3,000 and over income class the rates were essentially the same. The most striking contrast was between women aged 65-74 in the $3,000-and-over bracket and those aged 75 and over in the under-$1,500 bracket – visual impairment was nearly seven times as prevalent in the latter as in the former group. Whether this finding represents an association between the fact that older persons who are disadvantaged economically have more chronic disease on the average and that there is a relationship between these conditions and visual impairment, or whether it is simply a question of economic inability to obtain adequate eye care is not known.

Table 6.4. Number of Persons with Visual Impairment and Rates per 1,000 Persons, by Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Age and annual income	Both sexes			Male			Female		
		With vis. imp.			With vis. imp.			With vis. imp.	
	Total*	No.*	Rate	Total*	No.*	Rate	Total*	No.*	Rate
Total 65+									
Under $1,500	552	95	172	167	28	168	385	67	174
$1,500 - $2,999	989	89	90	521	45	86	468	44	94
$3,000+	896	55	61	513	30	58	383	25	65
65 - 74									
Under $1,500	327	38	116	88	9	102	239	29	121
$1,500 - $2,999	707	40	56	348	18	52	359	22	61
$3,000+	668	25	37	375	14	37	293	11	38
75+									
Under $1,500	225	57	253	79	19	[illegible]	146	38	260
$1,500 - $2,999	282	49	174	173	27	156	109	22	202
$3,000+	228	30	132	138	16	112	90	14	156

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for age-sex categories shown in Table 6.3.

In comparing the Pinellas County results with those from the National Health Survey, it is necessary to consider a slight difference in techniques which may have influenced the nature of the data. The National Health Survey item was: "Can you read ordinary newspaper print with glasses?" The phrase "difficult to read" in the present survey may have been interpreted somewhat more broadly than the words "can you read?" in the national survey. The NHS report separated blindness, interpreted as negative responses to their question, from "other visual impairment," defined as "persons who were blind in one eye but had sight in the other, or who had poor vision or trouble with seeing in one or both eyes but were not blind, as defined." The rates shown in Table 6.5 for the United States older population are for blindness and other visual impairment combined.

The comparison indicates that prevalence rates for visual impairment in the county are somewhat lower for the elderly group as a whole, and for those aged 65-74, but higher than the national rates for those 75 years of age and over.

Table 6.5. Rates per 1,000 Persons with Visual Impairment, by Age, United States, 1957-1958[12], and Household Survey of the Aged, Pinellas County, 1959.

Age	United States	Pinellas County
Total 65+	103	96
65 - 74	75	60
75+	158	181

Hearing

The information regarding hearing loss was obtained by two questions: "Is your hearing affected in one or both ears?" and "Is this loss of hearing slight, moderate, or total?" For purposes of analysis the degree of loss was somewhat arbitrarily classified as major or minor. If slight impairment in one or both ears or moderate or total impairment in one ear only was reported, the loss was designated minor. Moderate loss in both ears, moderate loss in one ear with slight or total loss in the other, or total loss in both ears, as well as total loss in one ear with slight or moderate loss in the other ear was classified as major impairment.

More than a third of the respondents had experienced some hearing loss; this problem, therefore, must be regarded as important among older people in the county (Table 6.6). Prevalence rates were considerably higher for males than for females and, as would be expected, much greater at age 75 and over.

Table 6.6. Number of Persons with Hearing Impairment and Rates per 1,000 Persons, by Degree of Impairment, Sex, and Age, Household Survey of the Aged, Pinellas County, 1959

Age and sex	Total	Any loss		Major loss	
		Number	Rate	Number	Rate
Total 65+	2,544	915	360	237	93
Male	1,246	529	425	136	109
Female	1,298	386	297	101	78
65 - 74	1,776	538	303	106	60
Male	847	317	374	55	65
Female	929	221	238	51	55
75+	768	377	491	131	171
Male	399	212	531	81	203
Female	369	165	447	50	136

One fourth of all hearing impairments for both men and women was classified as loss of major degree, as previously defined. Major impairments comprised a higher proportion of all losses in the higher than in the lower age group; the differential being especially great for men. But the striking fact is that the prevalence rate for major hearing loss rises abruptly with age; it is nearly three times as high for those of both sexes who are past 75 as compared with those in the younger age group.

Some tendency was found for hearing loss to be inversely related to annual family income (Table 6.7); however, by age 75 about half the county residents had experienced some impairment, regardless of socioeconomic status.

The comparison in Table 6.8 of prevalence rates for hearing impairment among older people in the nation and the county indicates considerably more deafness and near-deafness in the latter. The differentials undoubtedly are related to divergences in the methods used in the two surveys. In the Pinellas County study the basic question referred to hearing being "affected in one or both ears." The comparable NHS item inquired about "deafness or serious trouble with hearing". Consequently, the community survey question elicited responses relating to slight impairment which would not have been detected by the item in the NHS check list.

Table 6.7. Number of Persons with Hearing Impairment and Rates per 1,000 Persons, by Degree of Impairment, Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Age and annual income	Both sexes					Male					Female				
		Any loss		Major loss			Any loss		Major loss			Any loss		Major loss	
	Total*	No.*	Rate	No.*	Rate	Total*	No.*	Rate	No.*	Rate	Total*	No.*	Rate	No.*	Rate
Total 65+															
Under $1,500	552	221	406	64	116	167	81	485	24	144	385	140	364	40	104
$1,500 - $2,999	989	342	376	90	91	521	223	428	57	109	468	119	254	33	71
$3,000+	896	315	352	77	86	513	210	409	53	103	383	105	274	24	63
65 - 74															
Under $1,500	327	110	336	25	76	88	34	386	7	80	239	76	318	18	75
$1,500 - $2,999	707	213	301	42	59	348	140	402	24	69	359	73	203	18	50
$3,000+	668	196	293	37	55	375	132	352	23	61	293	64	218	14	48
75+															
Under $1,500	225	111	493	39	173	79	47	595	17	215	146	64	438	22	151
$1,500 - $2,999	282	129	457	48	170	173	83	480	33	191	109	46	422	15	138
$3,000+	228	119	522	40	175	138	78	565	30	217	90	41	456	10	111

* Because of omission of those whose income was not reported, vertical columns do not necessarily sum to totals for age-sex categories shown in Table 6.6.

Table 6.8 Prevalence Rates per 1,000 Persons with Hearing Impairment, by Age, United States, 1957-1958[12], and Household Survey of the Aged, Pinellas County, 1959.

Age	United States	Pinellas County
Total 65+	172	360
65 - 74	129	303
75+	256	491

Limitation of Activity and Mobility

Disability was assessed with respect to (1) function in daily living and (2) confinement. The inquiries as to such limitations were made only when the respondent reported a chronic condition diagnosed by a physician, had experienced an accident, or had undergone surgery. All except six individuals classified as disabled had one or more chronic diseases of which they were aware.

Functional disability, referred to as *limitation of activity*, was determined by the following question, asked in connection with each specific chronic condition, accident or surgical procedure: "Does this now keep you from (1) feeding yourself? (2) dressing yourself? (3) going to the bathroom? (4) walking outside? (5) doing ordinary housework? (6) climbing steps or stairs? (7) going shopping? or (8) gardening?" For analytical purposes the first three responses were classified as major limitation of activity, the remainder minor limitation. Therefore, those with major functional disability could not feed themselves, dress themselves and/or go to the bathroom.

Confinement, referred to as *limitation of mobility*, was rated on the basis of answers to this question, also asked in relation to specified conditions: "Does this bother you enough now to confine you (1) to bed? (2) to a chair? (3) to the house?" If the respondent was unable to leave his bed or chair, the limitation was classified as major; if confined to the house but otherwise able to move about, he was regarded as having a partial limitation of mobility.

The evidence as presented in Table 6.9 showing that about one tenth of those in the probability sample of persons 65 years of age and over were functionally disabled has to be interpreted with the universe of study in mind. It will be recalled that the definition of the population in the survey design specifically excluded all those physically and mentally incapable of responding to the questions and the entire institutional population. The prevalence rate, therefore, for limitation of activity of 107 per 1,000 persons understates the amount of disability in the total older population of the county. In the course of the survey 36 persons were encountered who were adjudged too ill to be interviewed. When these are added to the statistics in Table 6.9, the rate for major limitation becomes 23 and that for any limitation 119 per 1,000, both rates are for the noninstitutional population of the county.

Table 6.9 Number of Persons with Limitation of Activity and Rates per 1,000 Persons, by Degree of Limitation, Sex, and Age, Household Survey of the Aged, Pinellas County, 1959.

Age and sex	Total	Any limitation		Major limitation	
		Number	Rate	Number	Rate
Total 65+	2,544	271	107	25	10
Male	1,246	121	97	8	6
Female	1,298	149	115	16	12
65 - 74	1,776	154	87	9	5
Male	847	67	79	1	1
Female	929	87	94	8	9
75+	768	117	152	16	21
Male	399	54	135	7	17
Female	369	62	168	8	22

The rates for disability of this type are higher for women than for men for both any and major limitation. Limitation of activity is much more prevalent among those aged 75 and over. Both the sex and age differentials are consistent for all the age-sex categories and for both degrees of limitation.

For the sample as a whole and for those persons aged 65-74, limitation of activity is inversely associated with income status, but this relationship does not prevail at the older ages (Table 6.10).

Table 6.10. Number of Persons with Limitation of Activity and Rates per 1,000 Persons, by Degree of Limitation, Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Age and annual income	Total*	Any limitation		Major limitation	
		Number*	Rate	Number*	Rate
Total 65+					
Under $1,500	552	74	134	7	13
$1,500 - $2,999	989	119	120	9	9
$3,000+	896	64	71	8	9
65 - 74					
Under $1,500	327	41	125	4	12
$1,500 - $2,999	707	70	99	4	6
$3,000+	668	38	57	1	2
75+					
Under $1,500	225	33	147	3	13
$1,500 - $2,999	282	49	174	5	18
$3,000+	228	26	114	7	31

Table 6.10. (Continued)

Age and annual income	Total	Any limitation		Major limitation	
		Number*	Rate	Number*	Rate
Male					
Under $1,500	167	23	138	2	12
$1,500 - $2,999	521	58	111	2	4
$3,000+	513	38	74	4	8
65 - 74					
Under $1,500	88	12	136	1	11
$1,500 - $2,999	348	31	89	–	–
$3,000+	375	24	64	–	–
75+					
Under $1,500	79	11	139	1	13
$1,500 - $2,999	173	27	156	2	12
$3,000+	138	14	101	4	29
Female					
Under $1,500	385	51	132	5	13
$1,500 - $2,999	468	61	130	7	15
$3,000+	383	25	65	3	8
65 - 74					
Under $1,500	239	29	121	3	13
$1,500 - $2,999	359	39	109	4	11
$3,000+	293	14	48	1	3
75+					
Under $1,500	146	22	151	2	14
$1,500 - $2,999	109	22	202	3	28
$3,000+	90	11	122	2	22

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for the age-sex categories.

In considering limitation of mobility, it should be remembered that individuals judged too disabled to be subjected to interviewing were excluded from the sample population. Limitation of mobility (Table 6.11) was less than half as prevalent as limitation of activity but those with major disability–that is, confined to bed or chair–comprised about one fifth of the disabled, compared with about one tenth in the case of functional limitations. When the 36 persons defined as too ill to be included are added, the prevalence rates become 59 per 1,000 for any mobility limitation and 23 for major limitation. In this connection as in the case of limitation of activity, however, the definitions of "major" and "minor" disability are quite arbitrary and modifications of these definitions would strongly affect the rates.

The prevalence rates for any limitation of mobility (Table 6.11) reveal the same consistent age and sex differentials prevailing for any limitation of activity (Table 6.9).

Table 6.11. Number of Persons with Limitation of Mobility and Rates per 1,000 Persons, by Degree of Limitation, Sex, and Age, Household Survey of the Aged, Pinellas County, 1959.

Age and sex	Total	Any limitation		Major limitation	
		Number	Rate	Number	Rate
Total 65+	2,544	117	46	24	9
Male	1,246	47	38	7	6
Female	1,298	70	54	17	13
65 - 74	1,776	64	36	10	6
Male	847	25	30	3	4
Female	929	39	42	7	8
75+	768	53	69	14	18
Male	399	22	55	4	10
Female	369	31	84	10	27

The prevalence of any limitation of mobility varied inversely with annual income for all age-sex categories (Table 6.12). For major limitation, persons in the lower income class consistently had rates higher than those in the two upper income classes except for females aged 75 and over.

Chronic limitation of activity was recorded four times as

Table 6.12. Number of Persons with Limitation of Mobility and Rates per 1,000 Persons, by Degree of Limitation, Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Age and Annual income	Total*	Any limitation		Major limitation	
		Number*	Rate	Number*	Rate
Total 65+					
Under $1,500	552	42	76	10	18
$1,500 - $2,999	989	46	46	8	8
$3,000+	896	26	29	7	8
65 - 74					
Under $1,500	327	22	67	5	15
$1,500 - $2,999	707	27	38	3	4
$3,000+	668	13	19	2	3
75+					
Under $1,500	225	20	89	5	22
$1,500 - $2,999	282	19	67	5	17
$3,000+	228	12	53	4	18
Male					
Under $1,500	167	13	78	2	12
$1,500 - $2,999	521	21	40	3	6
$3,000+	513	13	25	2	4
65 - 74					
Under $1,500	88	7	80	1	11
$1,500 - $2,999	348	12	34	1	2
$3,000+	375	6	16	1	3
75+					
Under $1,500	79	6	75	1	12
$1,500 - $2,999	173	9	52	2	12
$3,000+	138	7	51	1	7

Table 6.12. (Continued)

Age and Annual income	Total*	Any limitation Number*	Any limitation Rate	Major limitation Number*	Major limitation Rate
Female					
Under $1,500	385	29	75	8	21
$1,500 - $2,999	468	25	53	5	11
$3,000+	383	13	34	5	13
65 - 74					
Under $1,500	239	15	63	4	17
$1,500 - $2,999	359	15	42	2	6
$3,000+	293	7	24	1	3
75+					
Under $1,500	146	14	96	4	27
$1,500 - $2,999	109	10	92	3	28
$3,000+	90	5	56	3	33

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for the age-sex categories.

frequently in the National Health Survey as in the county study (Table 6.13).

Table 6.13. Rates per 1,000 Persons with Chronic Limitation of Activity and Chronic Limitation of Mobility, United States, 1957-58 [illegible], and Household Survey of the Aged, Pinellas County, 1959.

Sex and age	With any limitation of activity U. S.	With any limitation of activity Pinellas Co.	With any limitation of mobility U. S.	With any limitation of mobility Pinellas Co.
Total 65+	431	107	45	46
Male	436	97	37	38
Female	428	115	52	54
65 - 74	372	87	24	36
Male	396	79	22	30
Female	350	94	26	42
75+	549	152	88	69
Male	520	135	69	55
Female	571	168	102	84

As previously stated, the Pinellas County survey asked whether the chronic condition prevented the individual from engaging in eight specific activities. In the National Health Survey, workers and other persons except housewives and children were asked which of the present situations prevailed: (1) cannot work at all at present; (2) can work but limited in amount or kind of work; (3) can work but limited in kind or amount of outside activity; (4) not limited in any of these ways. The statements directed to housewives were similar except for the reference to "keeping house". The likelihood is that the third statement, "can work but limited in kind or amount of outside activity," elicited responses relating to numerous partial limitations not identified by the

Pinellas County inquiry. The two sets of statistics record findings by differing techniques; they do not indicate the relative prevalence of comparable defects for the county and nation.

The data as to chronic limitation of mobility are entirely comparable since they relate in both instances to confinement to the house. The two populations of persons 65 and over are remarkably alike with respect to total prevalence rates; however, the rates for the county are higher for ages 65-74 and lower at age 75 and over in comparison with the national norms.

Dental Defects

In an effort to obtain as comprehensive an understanding of the dental health of the respondents as was feasible through the use of survey methodology, a series of questions were utilized regarding the teeth, dentures, and problems experienced in using dentures. The first of these, "Do you have most of your own teeth, some of your teeth, or none of your own teeth?" yielded the results presented in Table 6.14. The respondent, by the phrasing of the question, was given the responsibility of judging what constituted "most" or "some" of his teeth, but the category "none of your own teeth" sharply differentiated the edentulous.

Less than one fifth had most of their own teeth, and well over half were without teeth. Differences between men and women were slight; however, women were more likely to have most of their own teeth and less likely to be edentulous. Persons with none of their own teeth were relatively more numerous at the higher ages. In females aged 65-74 about half were edentulous; in males aged 75 and over more than three fifths had lost all their original teeth.

Table 6.14. Number of Persons According to Status of Teeth and Rates per 1,000 Persons, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

		With most of own teeth		With some of own teeth		With none of own teeth	
Age and sex	Total	No.	Rate	No.	Rate	No.	Rate
Total 65+	2,544	445	175	671	264	1,428	561
Male	1,246	200	160	326	262	720	578
Female	1,298	245	189	345	266	708	545
65 - 74	1,776	350	197	477	269	949	534
Male	847	155	183	225	266	467	551
Female	929	195	210	252	271	482	519
75+	768	95	124	194	253	479	624
Male	399	45	113	101	253	253	634
Female	369	50	136	93	252	226	612

The financial status of older individuals has an important relationship to their dental status (Table 6.15). For the sample as a whole and for most of the age-sex categories, having most or some of one's own teeth varied directly with annual income; however, this generalization does not hold true consistently for the males. These relationships presum-

Table 6.15. Number of Persons According to Status of Teeth and Rates per 1,000 Persons, by Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Sex, age, and annual income	Total*	With most of own teeth		With some of own teeth		With none of own teeth	
		No.*	Rate	No.*	Rate	No.*	Rate
Total 65+							
Under $1,500	552	60	109	123	223	369	668
$1,500 - $2,999	989	152	154	235	238	602	608
$3,000+	896	214	239	278	310	404	451
65 - 74							
Under $1,500	327	44	135	73	223	210	642
$1,500 - $2,999	707	122	173	172	243	413	584
$3,000+	668	171	256	204	305	293	439
75+							
Under $1,500	225	16	71	50	222	159	707
$1,500 - $2,999	282	30	106	63	223	189	670
$3,000+	228	43	189	74	324	111	487
Male							
Under $1,500	167	21	126	36	215	110	659
$1,500 - $2,999	521	64	123	116	223	341	654
$3,000+	513	105	205	160	312	248	483
65 - 74							
Under $1,500	88	15	171	20	227	53	602
$1,500 - $2,999	348	52	149	79	227	217	624
$3,000+	375	82	219	113	301	180	480
75+							
Under $1,500	79	6	76	16	203	57	721
$1,500 - $2,999	173	12	69	37	214	124	717
$3,000+	138	23	167	47	340	68	493
Female							
Under $1,500	385	39	101	87	226	259	673
$1,500 - $2,999	468	88	188	119	254	261	558
$3,000+	383	109	285	118	308	156	407
65 - 74							
Under $1,500	239	29	121	53	222	157	657
$1,500 - $2,999	359	70	195	93	259	196	546
$3,000+	293	89	304	91	310	113	386
75+							
Under $1,500	146	10	68	34	233	102	699
$1,500 - $2,999	109	18	165	26	239	65	596
$3,000+	90	20	222	27	300	43	478

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for age-sex categories shown in Table 6.14.

ably reflect different attitudes and behavior regarding dental care according to social class, and differential ability to pay for care.

A total of 143 persons (5.6 percent of the sample and 12.8 percent of those with most or some teeth) gave an affirmative response to the question, "Do you have any trouble with your own teeth?" The largest proportion, about one third, mentioned toothache as the major difficulty. Other complaints, in order of decreasing relative importance, were broken or jagged teeth, abscesses, sore or bleeding gums, loose teeth, and miscellaneous difficulties.

About 85 percent of the respondents reported having dentures or bridges of various types (Table 6.16). Only 1.0 percent of the edentulous were without dental prostheses. More than one half used both upper and lower dental plates and there were no important differences in the distribution of men and women.

Of those having dentures, 132 persons (approximately six percent) stated that they did not wear them regularly and about the same proportion reported that they were not satisfactory for eating. A much larger number, 340 individuals (about 16 percent of those with dentures) were experiencing trouble with their prosthetic devices. The most prevalent complaint, mentioned by about two thirds, was that the den-

Table 6.16. Number and Percentage of Persons with Dentures, by Type of Denture and Sex, Household Survey of the Aged, Pinellas County, 1959.

	Both sexes		Male		Female	
Type of denture	No.	Pct.	No.	Pct.	No.	Pct.
Total	2,544	100.0	1,246	100.0	1,298	100.0
Upper plate only	211	8.3	105	8.4	106	8.2
Lower plate only	14	0.6	3	0.2	11	0.8
Both upper and lower plates	1,346	52.9	673	54.0	673	51.8
Partial plate only	198	7.8	75	6.0	123	9.5
Upper plate and lower partial	218	8.6	107	8.6	111	8.5
Lower plate and upper partial	13	0.5	5	0.4	8	0.6
Upper and lower partial plates	75	2.9	34	2.8	41	3.2
Bridges of various types	54	2.1	19	1.5	35	2.7
Other	2	0.1	–	–	2	0.2
Respondent has own teeth	348	13.7	190	15.3	158	12.2
None (has neither own nor false teeth)	26	1.0	17	1.4	9	0.7
Not reported	39	1.5	18	1.4	21	1.6

tures were loose or otherwise did not fit properly. About one tenth could not accustom themselves to their use; another comment was that they were broken and in need of repair.

From a dental standpoint, the older people of Pinellas County are characterized by edentulousness, which is more common than having one's own teeth; widespread use of dentures; and considerable difficulty with dentures or with own teeth. Hence, it appears that dental problems are important in this population.

Loss of teeth is slightly less prevalent among the elderly population of the county than among that of the United States as a whole (Table 6.17). Loss of all teeth is slightly more common among men and considerably less common among women in the county as compared with the national figures. Similarly, at age 75 and over edentulous persons are a little less numerous, relatively, in the county than in the nation. These systematic sex differences are difficult to account for, but one possible explanation may be that the relevant item in the National Health Survey, "Is there anyone in the family who has lost all of his teeth?" was answered by a household informant, while in the county survey, responses were provided only by the affected individual.

Table 6.17. Rates per 100 Persons of Edentulousness, United States, 1957-58[11], and Household Survey of the Aged, Pinellas County, 1959.

Sex and age	United States	Pinellas County
Total 65+	59.4	56.1
Male	55.9	57.8
Female	62.3	54.5
65 - 74	55.4	53.4
Male	52.8	55.1
Female	57.6	51.9
75+	67.3	62.4
Male	62.4	63.4
Female	71.0	61.2

Chronic Disease and Prevalence of Impairment, Disability, and Edentulousness

The likelihood that an individual will suffer from a visual or auditory impairment, or limitation of activity or of mobility, or edentulousness is much greater if he has been diagnosed as having one or more chronic conditions. The statistics in Table 6.18 suggest that older individuals without diagnosed chronic conditions average fewer health problems of these types.

Table 6.18. Rates per 1,000 Persons for Specific Impairments, Disabilities, and Edentulousness According to Chronic Disease Diagnosis Category, Household Survey of the Aged, Pinellas County, 1959.

Impairment, limitation, and dental status	(N = 1,677) With 1+ chronic diseases	(N = 867) Without chronic diseases
Visual impairment	110	68
Hearing impairment (major)	113	55
Limitation of activity	157	6*
Limitation of mobility	69	2*
Edentulous	576	533

* Respondents whose disability was attributed to accidents or surgery in the absence of diagnosed chronic diseases.

Selected Chronic Diseases

As previously stated, a chronic conditions check list was read to each respondent and the items were worded so as to evoke information for only those diseases that had been diagnosed by a doctor during the preceding two years. The data presented, therefore, should be regarded as representing the individual's understanding of the chronic diseases of which he was aware on the basis of statements made to him by physicians. That these reports cannot be accepted as entirely accurate descriptions of the elderly person's condition will be apparent. Misstatements could have occurred in several ways. The respondent may not have heeded the instruction that he was to confirm only those conditions diagnosed by a physician. Such a possibility exists primarily for conditions such as arthritis, stomach trouble, female trouble, and rupture or hernia which could have been self-diagnosed. The patient may have misunderstood or misinterpreted a physician's words, such failures of communication are not infrequent. Certain stigmatized conditions such as cancer, tuberculosis, and mental illness may have been underreported intentionally. Finally, the method used could not detect undiagnosed conditions and diagnosed conditions of which the patient had not been informed by his physician.

Arthritis or rheumatism was the most prevalent disease reported, more than a fifth of the respondents (Table 6.19) stated they had this condition. High blood pressure and heart disease were next. Conditions with rates ranging from 44 to 90 persons per 1,000 were, in order of decreasing importance, stomach or bowel trouble, kidney or bladder trouble,

Table 6.19. Number of Persons with Selected Chronic Diseases and Rates per 1,000 Persons, by Sex, Household Survey of the Aged, Pinellas County, 1959

Chronic conditions	Both sexes		Male		Female	
	No.	Rate	No.	Rate	No.	Rate
Heart disease	439	173	238	191	201	155
High blood pressure	452	178	152	122	300	231
Stroke	63	25	40	32	23	18
Arthritis or rheumatism	542	213	190	152	352	271
Stomach or bowel trouble	228	90	96	77	132	102
Gall bladder trouble	154	61	50	40	104	80
Diabetes	113	44	61	49	52	40
Cancer (any kind)	68	27	40	32	28	22
Anemia (any kind)	130	51	35	28	95	73
Fractured hip	19	7	3	2	16	12
Other fracture	69	27	16	13	53	41
Prostate trouble			136	109		
Female trouble					37	29
Kidney or bladder trouble	218	86	97	78	121	93
Asthma	76	30	49	39	27	21
Bronchitis	91	36	42	34	49	38
Tuberculosis	19	7	10	8	9	7
Paralysis agitans	9	4	6	5	3	2
Multiple sclerosis	21	8	12	10	9	7
Rupture or hernia	170	67	146	117	24	18
Mental illness	7	3	2	2	5	4
Other diagnosis	298	117	151	121	147	113

rupture or hernia, gall bladder trouble, anemia (all types), and diabetes. Among males another condition in a position of major importance was prostate trouble, reported by 109 per 1,000.

The order of importance of the conditions was somewhat different for males and females. For the men heart disease was most often reported; it accounted for about one fifth of all respondents. Arthritis and rheumatism, high blood pressure, rupture or hernia, and prostate trouble were experienced by more than 100 males per 1,000. For the women, on the contrary, arthritis and rheumatism was most prevalent, reported by more than one in four, and high blood pressure was nearly as prevalent. In addition, heart disease and stomach or bowel trouble had been diagnosed in more than 100 females per 1,000.

The high-prevalence conditions included in Table 6.20 do not regularly increase with advancing age. Some, such as gall bladder trouble and prostate trouble, attain their highest prevalence at ages 80-84. Others, as heart disease, increase irregularly by age class reaching their highest levels at age 85 and over. Other classifications, notably high blood pressure, arthritis and rheumatism, and stomach and bowel trouble, peak at ages 75-79, with rates increasing to that age class and decreasing in the older age classes.

Table 6.20. Rates per 1,000 Persons with Selected Chronic Conditions, by Age, Household Survey of the Aged, Pinellas County, 1959.

Conditions	65-69	70-74	75-79	80-84	85+
Heart disease	156	163	212	198	216
High blood pressure	170	183	19[illegible]	172	159
Arthritis and rheumatism	213	204	24[illegible]	207	148
Stomach and bowel trouble	78	86	12[illegible]	97	45
Gall bladder trouble	58	56	65	88	45
Diabetes	49	46	40	40	57
Anemia	43	59	58	62	—
Prostate trouble (males)	91	93	129	167	154
Kidney or bladder trouble	73	84	89	123	114
Rupture or hernia	43	79	85	70	114

In general, Pinellas County's older population exhibit a higher prevalence for most of the selected chronic diseases listed in Table 6.21 than the elderly population of the United States for the comparable time period. The rates for five of the conditions–heart disease, high blood pressure, diabetes, rupture or hernia, and bronchitis–are higher for the county than for the nation, although most of the differentials are small. The rates for arthritis and rheumatism are virtually the same, while that for asthma is lower (Table 6.21).

Whether given differences between local and national rates are statistically significant can be determined by the method and table included in Appendix E. It is unlikely that any considerable amount of the observed differentials can be attributed to the use in the two surveys of dissimilar data-gathering techniques. The major difference in point is that field workers in the National Health Survey handed household informants a check list of chronic diseases, while interviewers in the county read a check list to respondents. All the terms referring to conditions included in Table 6.21 were identical in the two lists except for the following:

National Health Survey	Pinellas County Survey
Heart trouble	Heart disease
Chronic bronchitis	Bronchitis

These procedural differences may have resulted in some differentials in responses, but variations probably were of rather small degree.

Table 6.21. Rates per 1,000 Persons for Selected Chronic Diseases, United States, 1957-59, and Household Survey of the Aged, Pinellas County, 1959.[a]

Sex and disease	Age 65+ Pinellas County	 65+ United States	 65-74 Pinellas County	 65-74 United States	 75+ Pinellas County	 75+ United States
Both sexes						
Heart (1)	173	147	159	128	204	183
High blood pressure (1, 2)	178	128	174	127	186	128
Diabetes	44	40	47	43	39	35
Arthritis and rheumatism	213	215	211	207	219	231
Rupture or hernia	67	47	60	43	83	53
Asthma or hay fever (3, 4)	30	21	32	(**)	25	(**)
Bronchitis (3, 5)	36	12	39	(**)	27	(**)
Male						
Heart (1)	191	144	177	138	221	15[illegible]
High blood pressure (1, 2)	122	71	115	70	138	74
Diabetes	49	33	53	34	40	31
Arthritis and rheumatism	152	154	150	155	158	152
Rupture or hernia	117	83	107	75	138	102
Asthma or hay fever (3, 4)	39	(**)	43	(**)	33	(**)
Bronchitis (3, 5)	34	(**)	37	(**)	28	(**)
Female						
Heart (1)	155	148	142	119	187	203
High blood pressure (1, 2)	231	175	228	178	238	170
Diabetes	40	46	41	50	38	39
Arthritis and rheumatism	271	267	266	254	285	292
Rupture or hernia	18	16	16	16	24	16

Table 6.21 (Continued)

	Age					
	65+		65-74		75+	
Sex and disease	Pinellas County	United States	Pinellas County	United States	Pinellas County	United States
Asthma or hay fever (3, 4)	21	(**)	23	(**)	16	(**)
Bronchitis (3, 5)	38	(**)	42	(**)	27	(**)

* For sources of national data see reference 15, tables 2 and 3; reference 16, tables 1 and 2; reference 17, table 1; reference 18, table 1; reference 19, table 1; and reference 20, tables A, B, and F.

Sample size for references 15 and 16, (July 1957-June 1958)

	Both sexes	Male	Female
Total	9,890	4,530	5,360
65-74	6,555	3,074	3,481
75+	3,335	1,454	1,881

Sample size for reference 17, 18, 19, and 20 (July 1957-June 1959)

	Both sexes	Male	Female
Total	20,210	9,216	10,994
65-74	13,395	6,255	7,140
75+	6,815	2,958	3,857

** Rates not available.

[1] Prevalence rates for heart disease and high blood pressure were computed from data (reference 15, tables 1 and 2) by making the assumption that the proportions never medically attended for both sexes, male, and female prevailed also for persons aged 65 and over, 65-74, and 75 and over. Rates are for July 1957-June 1959.

[2] High blood pressure without heart involvement.

[3] National rates are for July 1957-June 1958.

[4] Pinellas County rates are for asthma only.

[5] The National Health Survey check list used in interviews employed the term "chronic bronchitis."

Rates for males and females show a good deal of consistency with those for the sample as a whole. The prevalence rates for high blood pressure and bronchitis were higher than national averages for all age-sex categories; that of asthma was lower for all categories. The differences between males and females in rates for arthritis and rheumatism were small; those for age-sex categories were inconsistent. Heart disease was more prevalent in the county than in the nation for all age-sex groups except women aged 75 and over. Male respondents had a higher than expected prevalence rate for diabetes, and females were close to the national rate. The prevalence of rupture or hernia was greater among males in the county in both age classes; on the other hand, the rates for females were very close to the national norms.

Selected Chronic Diseases and Disability

The association of selected chronic diseases with limitation of activity and/or limitation of mobility can be observed in Table 6.22. Such limitations were most prevalent among those with a diagnosis of heart disease, about one third of whom were experiencing functional or mobility limitation of some degree. Other conditions accompanied by a relatively high prevalence of disability were arthritis and rheumatism (more than one sixth of those afflicted), diabetes (about one seventh), and high blood pressure (one ninth). The prevalence rates for disability of those with asthma, bronchitis, and rupture or hernia were below the rate of the sample as a whole.

Although, as noted earlier, limitation of activity and mobility was more prevalent among females than males, Table 6.22 reveals some variations of disability associated with specific conditions. A higher proportion of males than fe-

Table 6.22. Rate of Limitation of Activity and/or Mobility per 1,000 Persons with Specified Chronic Diseases by Sex, Household Survey of the Aged, Pinellas County, 1959.

Diseases	Both sexes		Male		Female	
	Total	Rate	Total	Rate	Total	Rate
All respondents	2,544	106	1,246	96	1,258	118
Heart disease	439	292	238	286	201	299
High blood pressure	452	115	152	138	300	103
Arthritis and rheumatism	542	175	190	153	352	187
Diabetes	113	142	61	82	52	212
Asthma	76	92	49	122	27	37
Bronchitis	91	55	42	71	49	41
Rupture or hernia	170	24	146	21	24	42

Table 6-23. Number of Persons with Specified Chronic Diseases Who Had Hearing and/or Visual Impairment and Rates per 1,000 Persons, by Sex, Household Survey of the Aged, Pinellas County, 1959

Disease and sex	Total with one or both impairments		Hearing impairment only		Visual impairment only		Both visual and hearing impairment	
	No.	Rate*	No.	Rate	No.	Rate	No.	Rate
Both sexes	1,033	406	794	312	118	46	121	48
Heart disease	212	483	153	349	27	62	32	73
High blood pressure	204	451	136	301	31	69	37	82
Arthritis and rheumatism	271	500	195	360	36	66	40	74
Diabetes	51	451	46	407	—	—	5	44
Asthma	40	526	28	368	5	66	7	92
Bronchitis	52	571	42	462	6	66	4	44
Rupture or Hernia	93	547	80	471	3	18	10	59
Males	571	458	471	378	42	34	58	47
Heart disease	123	517	94	395	15	63	14	59
High blood pressure	77	507	58	382	5	33	14	92
Arthritis and rheumatism	118	621	96	505	6	32	16	84
Diabetes	32	525	29	475	—	—	3	49
Asthma	30	612	22	449	3	61	5	102
Bronchitis	27	643	21	500	3	71	3	71
Rupture or hernia	83	568	73	500	3	21	7	48
Females	462	356	323	249	76	59	63	49
Heart disease	89	443	59	294	12	60	18	90
High blood pressure	127	423	78	260	26	87	23	77
Arthritis and rheumatism	153	435	99	281	30	85	24	68
Diabetes	19	365	17	327	—	—	2	38
Asthma	10	370	6	222	2	74	2	74
Bronchitis	25	510	21	429	3	61	1	20
Rupture or hernia	10	417	7	292	—	—	3	125

* Because of rounding, rates for impairment categories may not total the rate shown for those with one or both impairments.

males were disabled in association with diagnosis of asthma (a wide difference), bronchitis, and high blood pressure. Otherwise rates for females were higher; this differential was slight for heart disease, moderate for arthritis and rheumatism, and marked for diabetes.

Selected Chronic Diseases and Visual and Auditory Impairments

Respondents having any one of the selected chronic diseases had higher than average prevalence rates for hearing and/or visual impairment (Table 6.23). Half of those with arthritis and rheumatism and more than half of those with bronchitis, rupture or hernia, and asthma had experienced such impairment. The finding held true for males and females considered separately. Among males, those with bronchitis, asthma, and arthritis and rheumatism had particularly high impairment rates; for females, those with bronchitis, heart disease, and arthritis and rheumatism ranked especially high.

With few exceptions, the generalization that hearing and/or visual impairment is particularly great among those with specific chronic conditions held true when prevalence of hearing impairment alone, visual impairment alone, and visual and hearing impairment occurring concurrently are examined. The association does not necessarily indicate a cause-and-effect relationship. The prevalence of chronic conditions increases with age and hearing and visual decrements, the latter in particular, rise sharply in the higher age categories.

Summary

The detailed analysis of chronic disease, impairments, and disability in a population aged 65 and over have revealed these major findings.

1. Two thirds of the respondents reported one or more diagnosed chronic diseases.

2. One in ten persons had experienced visual decrement sufficient to make it difficult to read newspapers or magazines, with or without glasses.

3. More than one third of the respondents had some impairment of hearing; about one fourth of the impaired group reported losses of major degree.

4. One in 10 persons suffered some limitation of activity in connection with chronic illness or surgery or as a result of accident; but only one in 100 was disabled to the extent that he could not feed himself, dress himself, and/or go to the bathroom. (The sample design excluded institutionalized persons and those too ill to be interviewed.)

5. About 5 in 100 persons were limited in mobility; but only one in 100 to the extent of being confined to a chair or bed. (The qualification noted in summary item 4 above applies in this case also.)

6. Over half of the respondents were edentulous; less than one fifth stated that they had most of their original teeth.

7. Sensory impairment and functional or mobility limitations were much more prevalent among persons with one or more chronic diseases and edentulousness was slightly more prevalent.

8. Of the 21 chronic conditions included in the interview check list, arthritis and rheumatism was the most prevalent, 213 per 1,000 persons; high blood pressure and heart disease were reported by 178 and 173 persons per 1,000, respectively. Other diagnosed diseases for which prevalence rates were 30 or more, in order of decreasing importance, were: stomach or bowel trouble, kidney or bladder trouble, rupture or hernia, gall bladder trouble, anemia, diabetes, bronchitis, and asthma.

9. Persons with heart disease, arthritis and rheumatism, diabetes and high blood pressure had higher rates for limitation of activity and mobility than those for the sample as a whole; but persons with asthma, bronchitis, and rupture or hernia had lower than average rates for such disability.

10. Persons with each of the selected chronic diseases had higher prevalence rates for impairment of vision and/or hearing.

11. Women had higher rates than men for prevalence of one or more chronic diseases; visual impairment; limitation of activity; limitation of mobility; and having most of own teeth.

12. Men had higher rates than women for prevalence of hearing impairment and edentulousness.

13. The relative importance of the specific chronic diseases differed somewhat according to sex. Heart disease (191 per 1,000) was the most prevalent condition for men; arthritis and rheumatism (152) was second. Arthritis and

rheumatism (271) ranked first for women; high blood pressure (231), second.

14. Prevalence rates were higher at age 75 and over than at ages 65-74 for one or more chronic diseases, visual impairment, hearing impairment, limitation of activity, limitation of moblity, and edentulousness.

15. Annual family income was found to be inversely related to prevalence of visual and hearing impairment, limitation of activity, limitation of mobility, and edentulousness; it was directly related to having most of one's own teeth.

16. Although income status was not associated linearly with having a diagnosis of one or more chronic diseases, prevalence rates were highest in all age-sex categories for those with the least annual income.

17. National and county rates for limitation of mobility were similar; but the U. S. rates were lower at ages 65-74 and higher at age 75 and over than the comparable statistics for the county.

18. Edentulousness was slightly less prevalent in the county than in the nation; however, while the rate for men in the county was slightly lower than the U. S. average, that for women was considerably below the national average.

19. Prevalence rates for heart disease, high blood pressure, diabetes, rupture or hernia, and bronchitis were higher in the county than in the nation; that for arthritis and rheumatism was about the same, and that for asthma was lower.

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CHAPTER 7

Utilization and Costs of Medical Services

In any attempt to assess the health situation of older people and to devise public health programs leading to the prevention, early detection, and medical management of conditions causing illness and disability, the study of the amount of medical services received by individuals and groups, the kind of services, and the costs must play a prominent part.

Differentials in health-care behavior cannot be attributed solely to an economic or financial factor for whether the individual seeks or receives medical service depends upon a number of variables operating together, particularly the sociocultural. There are regional, ethnic, religious, and class variations in such fundamental matters as the indication by certain symptoms of the need to seek medical care and the type of practitioner to whom the patient will turn for help. The sociocultural differences in population groups are a major factor in explaining behavioral differences. Another factor is the availability of health-care resources to the individual. In order to utilize a given service, he must be aware of its existence, know how to make contact with it, and be able–in most cases–to travel to the appropriate location. The motivation to obtain medical service also is an important variable, one related in turn to the sociocultural background but independent of it in some degree. Some psychiatric evidence suggests that old people may perceive themselves as worthless and useless, so much so that they harbor, perhaps unconsciously, a wish to die. These persons may not avail themselves of medical services to which they have ready access. Financial ability to purchase care is clearly important, but it acts as a limiting factor only in the cases of those who would seek service if they had adequate funds.

The term "medical services" includes care provided by physicians, dentists, and other private practitioners; nursing; clinic care; institutionalization in hospitals and nursing homes; laboratory tests and x-rays; and medicines and drugs. The period of observation for use of these services was, as in the case of diagnoses of disease, the two years preceding the date of the interview. Utilizing a check list of services the respondent was asked a series of questions regarding each service he had used. Information about dental care was elicited by questions earlier in the interview schedule.

Utilization of Selected Medical Services and Facilities: Sample as a Whole

More than five sixths of the respondents made use during the two-year period of one or more of the medical services listed in Table 7.1. Three fourths had received care by physicians (M.D.), and those who had consulted a physician (M.D.) and/or an osteopath comprised more than four fifths of the sample population. The paramount position of the medical practitioner in the provision of health care was convincingly demonstrated by these data. The use of medicines and drugs, often in connection with physician care, also was prominent. The finding that nearly half the respondents had had laboratory tests and x-rays indicated that a large proportion were under medical supervision, and nearly one fourth had been hospitalized one or more times during the two years in review. Only small percentages of the sample had utilized the remaining services listed in Table 7.1.

Table 7.1 Numbers and Percentages of Respondents Who Utilized Specified Health-Care Services During Two-Year Period, Household Survey of the Aged, Pinellas County, 1959 (N = 2,544).

Kind of service	Users	
	No.	Pct.
One or more services	2,181	85.7
Physician (M.D.)	1,914	75.2
Osteopath	165	6.5
Other practitioner (non-M.D.)	179	7.0
Clinic	126	5.0
Visiting nurse	23	0.9
Full-time nurse	14	0.6
Laboratory test and/or x-ray	1,233	48.5
Medicine or drugs	1,852	72.8
Hospital	604	23.7
Nursing Home	12	0.5

Medical Practitioners

Most of the older people of the county were more or less under continuing medical supervision, according to their reports. In response to the question, "Do you have a physician in the city or county who regularly takes care of your illnesses?" four fifths (80.7%) responded affirmatively. Sex differences were small–80.2 percent of the males and 81.1

percent of the females had family physicians. Age differences also were relatively slight—79.9 percent of those aged 65-74 and 82.5 percent of those aged 75 and over. This item did not indicate the nature of the relationship of the respondent to the physician. it reflects the subjective fact that the individual considered himself as being cared for by a physician, one to whom he would turn in case of need in the future. It did not measure the frequency and recency of visits to the practitioner. For example, a person who had consulted a particular physician four or five years previously may now regard that doctor as his family physician, on the basis that he would return to him if the need arose. On the other hand, the item as used in the survey stressed the reference to a physician "in the city or county," an important consideration in view of the fact that one third of the respondents had resided in the county less than five years and two thirds less than 10 years.

During the two-year period to which these data apply, the services of a physician (M.D. and/or D.O.) were utilized at least once by more than three in four respondents (Table 7.2). Almost equal numbers reported 10-19 visits and 20 or more visits; altogether, more than one fourth of these older people had had 10 or more consultations with physicians. The decided variation in use of this service is brought out, however, by the observation that nearly one fourth saw a doctor three times or less in the course of the two years.

Table 7.2. Numbers and Percentages of Persons Who Used the Services of a Physician (M.D. and or D.O.) During Two Year Period, by Number of Visits and Sex, Household Survey of the Aged, Pinellas County, 1959.

	Both sexes		Male		Female	
Number of visits	No.	Pct.	No.	Pct.	No.	Pct.
Total	2,544	100.0	1,246	100.0	1,298	100.0
0	584	22.9	301	24.2	283	21.8
1	231	9.1	128	10.3	103	7.9
2	243	9.6	112	9.0	131	10.1
3	135	5.3	68	5.5	67	5.2
4	181	7.1	89	7.1	92	7.1
5	96	3.8	45	3.6	51	3.9
6-9	288	11.3	135	10.8	153	11.8
10-19	351	13.8	162	13.0	189	14.6
20+	349	13.7	175	14.0	174	13.4
Not reported	86	3.4	31	2.5	55	4.2

Women obtained the services of physicians to a slightly greater degree than men (Table 7.3). There was a tendency for men who did receive physician care to report fewer visits than did women.

Table 7.3. Average Number of Physicians' Visits (M.D. and D.O.) per Year for a Two-Year Period, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Sex	Average number of visits per person per year
Both sexes	4.8
Male	4.6
Female	5.0

The difference as related to age was quite pronounced. On the two-year basis, persons aged 65-74 had an average of 8.8 visits compared with 11.4 for those aged 75 and over–a 30 percent greater utilization of physician care by those in the higher as against those in the lower age class.

The extent to which older people in the county visited or were visited by physicians for medical care varied directly with their annual family income. Persons whose family income amounted to $5,000 or more per year received, on the average, 41.7 percent more visits for the two year period than did those whose income was under $1,500 (Table 7.4). In terms of income the most important breaking point was $3,000. Those with less than that amount reported an average of 4.3 visits per year, while those with $3,000 or more had 5.8 visits, a difference of over one third (34.9 percent).

Table 7.4. Average Number of Physicians' Visits (M.D. and D.O.) per Year for a Two-Year Period, by Annual Family Income, Household Survey of the Aged, Pinellas County, 1959.

Income	Average number of visits per person per year
Under $1,500	4.2
$1,500-$2,999	4.4
$3,000-$4,999	5.7
$5,000+	5.9

Dentists

The question, "Do you have a regular dentist?" elicited an affirmative response from slightly more than one half of the respondents (51.5%), a much smaller proportion than indicated they had a family physician. A larger share of the women (56.5%) than of the men (46.2%) stated that they had a regular dentist.

About one third of those in the sample reported a visit to a dentist within the year preceding the interview but more than half had not had dental care for more than three years (Table 7.5). On the relative basis, considerably more men than women had not seen a dentist for more than three years and considerably fewer had visited one within the preceding year.

The dental-care behavior of the edentulous and the nonedentulous differed strikingly. Three fourths of those without any of their own teeth had not obtained care within a three-year period, while the same proportion with some or all of their own teeth had received dental service during that period. The concern of the nonedentulous with dental health is emphasized by the finding that nearly three fifths had seen a dentist during the year immediately before the interview. It will be remembered, however, that having one's own teeth is directly related to annual family income; consequently, the nonedentulous were better able, on the average, to afford dental care. The tendency for women to have obtained dental care more recently than men holds also for those with and without their own teeth; the differential is especially notable in the case of the nonedentulous; nearly one fifth more women than men reported a dental visit within the past year.

Table 7.5. Numbers and Percentages of Persons According to Interval Since Last Visit to a Dentist, by Sex and Edentulousness, Household Survey of the Aged, Pinellas County, 1959.

Sex and edentulousness	Total*		Interval since last visit to dentist: Within past year		1-3 years		More than 3 years	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Both sexes	2,540	100.0	834	32.8	374	14.7	1,332	52.5
Male	1,245	100.0	368	29.6	186	14.9	691	55.5
Female	1,295	100.0	466	36.0	188	14.5	641	49.5
Edentulous	1,425	100.0	189	13.3	177	12.4	1,059	74.3
Male	719	100.0	91	12.7	82	11.4	546	75.9
Female	706	100.0	98	13.9	95	13.4	513	72.7
Nonedentulous	1,115	100.0	645	57.8	197	17.7	273	24.5
Male	526	100.0	277	52.6	104	19.8	145	27.6
Female	589	100.0	368	62.5	93	15.8	128	21.7

* Excludes four persons who did not report interval since last dental visit.

For the sample as a whole, regardless of the dental status of respondents, the interval since the last visit to a dentist increased in each successive older age class (Table 7.6). For those who no longer had any of their original teeth, there was relatively little difference from age class to age class, but the largest proportion of persons whose last professional dental care had been received more than three years previously was found among the edentulous aged 75 and over.

Table 7.6. Numbers and Percentages of Persons According to Interval Since Last Visit to a Dentist, by Age and Edentulousness, Household Survey of the Aged, Pinellas County, 1959.

Age and edentulousness	Interval since last visit to dentist							
	Total*		Within past year		1-3 years		More than 3 years	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Total								
65-69	946	100.0	344	36.4	147	15.5	455	48.1
70-74	827	100.0	287	34.7	121	14.6	419	50.7
75+	767	100.0	203	26.5	106	13.8	458	59.7
Edentulous								
65-69	472	100.0	60	12.7	62	13.1	350	74.2
70-74	474	100.0	70	14.8	65	13.7	339	71.5
75+	479	100.0	59	12.3	50	10.4	370	77.3
Nonedentulous								
65-69	474	100.0	284	59.9	85	17.9	105	22.2
70-74	353	100.0	217	61.5	56	15.9	80	22.6
75+	288	100.0	144	50.0	56	19.4	88	30.6

* Excludes persons whose age and interval since last dental care was not reported.

Chiropractors and Other Practitioners

As shown in Table 7.1, visits to chiropractors, naturopaths, Christian Science practitioners, faith healers, and other or similar practitioners (all other than those with the degrees M.D. and D.O.) accounted for a higher proportion of visits than did those to osteopathic physicians. The distribution of visits to chiropractors and other types of practitioners differs little, in broad outline, from the pattern for visits to physicians (M.D.) and osteopaths (Table 7.7). For example, 43.0 percent of the respondents who received service from one or more of these practitioners reported less than six visits, while 45.2 percent of those who used physician services made fewer than six visits. At the other extreme, 20.7 percent had a total of 20 or more visits during the two years compared with 17.8 percent of those consulting physicians and osteopaths. The sex differential was small: 6.9 percent of all males and 7.2 percent of all females utilized services of chiropractors and other nonmedical practitioners. Somewhat larger proportions of women than of men had relatively large numbers of consultations: 44.1 percent of the females as compared with 32.6 percent of the males reported 10 or more visits.

Table 7.7. Numbers and Percentages of Persons Who Used the Services of Chiropractors and Other Practitioners (Other than M.D./D.O.) During Two-Year Period by Respondents Who Reported Utilization, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Number of visits	Both sexes		Male		Female	
	No.	Pct.	No.	Pct.	No.	Pct.
Total using service	179	100.0	86	100.0	93	100.0
1	13	7.3	5	5.8	8	8.6
2	24	13.4	13	15.1	11	11.8
3	13	7.3	6	7.0	7	7.5
4	11	6.1	5	5.8	6	6.5
5	16	8.9	8	9.3	8	8.6
6-9	31	17.3	20	23.2	11	11.8
10-19	32	17.9	14	16.3	18	19.4
20+	37	20.7	14	16.3	23	24.7
Not reported	2	1.1	1	1.2	1	1.1

Hospitals

Information regarding hospital stays should be more reliable than that concerning practitioner care. Excepting those experiencing frequent and long-term hospitalization, admission to such an institution is a critical event; neither the admission nor the number of days in the institution is likely to be forgotten soon by most patients.

The 604 persons hospitalized during the two years preceding interview comprised 23.7 percent of all respondents (Table 7.1). Only 24 were unable to state the exact length

Table 7.8. Numbers and Percentages of Days in Hospital During Two-Year Period by Persons Hospitalized, by Sex, Household Survey of the Aged, Pinellas County, 1959.

Number of days	Both sexes		Male		Female	
	No.	Pct.	No.	Pct.	No.	Pct.
Total hospitalized	604	100.0	317	100.0	287	100.0
1-2	67	11.1	29	9.1	38	13.2
3-5	96	15.9	50	15.8	46	16.0
6-9	106	17.5	57	18.0	49	17.1
10-19	165	27.3	84	26.5	81	28.2
20-49	114	18.9	62	19.6	52	18.1
50-99	26	4.3	16	5.0	10	3.5
100+	6	1.0	4	1.3	2	0.7
Not known	6	1.0	5	1.6	1	0.4
Not reported	18	3.0	10	3.1	8	2.8

* Excludes 18 persons who did not report hospital information.

of their confinement (Table 7.8). The largest share of those who received hospital service remained from 10 to 19 days; they comprised more than one fourth of the group. Another large number, making up nearly one fifth, spent from 20 to 49 days in the hospital. Of those who could state the exact length of their stay, the median was 11 days per person. It can be observed also that while 27.0 percent remained for less than six days, 24.2 percent spent 20 or more days in hospitals.

During the observation period, relatively more males than females were hospitalized (Table 7.9), though the difference (3.3 percentage points) is small. The incidence of hospital use varied little by age.

Table 7.9. Numbers and Percentages of Persons Hospitalized During Two-Year Period, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

Sex and age	Total No.	Hospitalized No.	Hospitalized Pct.
Both sexes	2,544	604	23.7
65-74	1,777	417	23.5
75+	767	187	24.4
Male	1,246	317	25.4
65-74	847	216	25.5
75+	399	101	25.3
Female	1,298	287	22.1
65-74	930	201	21.6
75+	368	86	23.4

There was no significant variation between hospital usage and annual family income (Table 7.10). The ability to pay had no apparent effect on whether hospital care was obtained.

Table 7.10. Numbers and Percentages of Persons Hospitalized During Two-Year Period, by Sex, Age, and Income, Household Survey of the Aged, Pinellas County, 1959.

Sex, age and annual family income	Total No.*	Hospitalized No.*	Hospitalized Pct.
Both sexes			
Less than $1,500	552	129	23.4
$1,500-$2,999	990	238	24.0
$3,000+	895	216	24.1
65-74			
Less than $1,500	327	74	22.6
$1,500-$2,999	708	171	24.2
$3,000+	668	158	23.7

Table 7.10. (Continued)

Sex, age and annual family income	Total No*	Hospitalized	
		No.*	Pct.
75+			
Less than $1,500	225	55	24.4
$1,500-$2,999	282	67	23.8
$3,000+	227	58	25.6
Male			
Less than $1,500	167	40	24.0
$1,500-$2,999	521	130	25.0
$3,000+	513	140	27.3
65-74			
Less than $1,500	88	17	19.3
$1,500-$2,999	348	90	25.9
$3,000+	375	104	27.7
75+			
Less than $1,500	79	23	29.1
$1,500-$2,999	173	40	23.1
$3,000+	138	36	26.1
Female			
Less than $1,500	385	89	23.1
$1,500-$2,999	469	108	23.0
$3,000+	382	76	19.9
65-74			
Less than $1,500	239	57	23.8
$1,500-$2,999	360	81	22.5
$3,000+	293	54	18.4
75+			
Less than $1,500	146	32	21.9
$1,500-$2,999	109	27	24.8
$3,000+	89	22	24.7

* Because of omission of those whose income was not reported, vertical columns do not sum to totals for age-sex categories shown in Table 7.9.

Nursing Homes

Length of stay for the 12 persons who reported care in nursing homes during the two-year span was as follows:

Number of months	Number of persons
1	5
2	2
3	1
4	3
5	–
6	1

Inasmuch as institutionalized persons were excluded from the survey population, the low utilization rate suggested by the foregoing statistics does not represent the situation for the total population for the years 1957-59. In 1960 when persons residing in nursing homes in Pinellas County were studied, the average age was 80.1 years, and there is considerable evidence that those seriously incapacitated elderly people who enter nursing homes tend to remain patients for long periods of time. In all probability most of the 12 individuals interviewed in the present survey were convalescing at the time of their residence in the institutions from acute illness, exacerbations of chronic conditions, or surgery.

Clinics

Responses to the question, "Have you been treated at a public or private clinic (during the past two years)?" revealed that only 126 persons (5.0 percent) had availed themselves of such service. These data do not indicate the location or kind of clinics attended. Respondents using clinics reported visits as follows:

Number of visits	Number of persons	
	No.	Pct.
All using clinics	126	100.0
1	36	28.6
2	10	7.9
3	11	8.7
4	7	5.6
5	1	0.8
6-9	14	11.1
10-19	9	7.1
20+	15	11.9
Not known	23	18.3

Medicines and Drugs

The information about use of medicines and drugs was derived from responses to a series of questions beginning with: (1) Have you had to take any medicines or drugs (during the past two years)? (2) Do you take any medicines or drugs–daily, weekly, rarely, only when ill? Although these questions provided much data regarding the practice and frequency of use, they did not differentiate between prescription and nonprescription drugs, patent medicines, vitamin and mineral preparations, and household remedies.

Nearly half the respondents stated that they used medicines and drugs daily (Table 7.11). Only 1.6 percent chose the "weekly" response and 2.9 percent the "rarely" response. About one fifth (19.5%) reported taking medicines and drugs only when ill. Thus more than nine tenths of the older people sampled were in three classes: (1) daily users, (2) nonusers, and (3) those who utilize such preparations only when ill. Perhaps the most striking finding was that more than one fourth had not taken any medicines and drugs during the two-year period in question.

More women than men, relatively, used these products, and a considerably higher proportion of them did so on a daily basis. The practice on the part of both men and women became more widespread with increased age; at age 75 and over well over half the women were utilizing such preparations daily.

Table 7.11. Numbers and Percentages of Persons Who Used Medicines and Drugs During Two-Year Period, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

			Users					
	Total*		Use daily		Use weekly, rarely, or only when ill		Nonusers	
Sex and age	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Both sexes	2,481	100.0	1,177	47.4	612	24.7	692	27.9
65-74	1,732	100.0	787	45.5	430	24.8	515	29.7
75+	749	100.0	390	52.1	182	24.3	177	23.6
Male	1,216	100.0	541	44.5	294	24.2	381	31.3
65-74	826	100.0	351	42.5	202	24.5	273	33.0
75+	390	100.0	190	48.7	92	23.6	108	27.7
Female	1,265	100.0	636	50.3	318	25.1	311	24.6
65-74	906	100.0	436	48.1	228	25.2	242	26.7
75+	359	100.0	200	55.7	90	25.1	69	19.2

* Excludes persons who did not report age or frequency of use of medicines and drugs.

Laboratory Tests and X-rays

The items designed to elicit reports of laboratory tests and x-rays inquired whether the individual had "had laboratory tests or x-rays done" and, if so, how many times. Utilization of such services proved to be common with nearly half the respondents making use of them. The number of times laboratory services and/or x-rays were utilized during the two-year period was as follows:

Times Used	Number of persons	Percentage of all respondents	Percentage of users
1	351	13.8	28.5
2	203	8.0	16.5
3	99	3.9	8.0
4	94	3.7	7.6
5	46	1.8	3.7
6-10	105	4.1	8.5
11-15	32	1.3	2.6
16-20	9	0.4	0.7
21+	27	1.1	2.2
Not known	267	10.5	21.6
No reported use	1,311	51.5	—

The prominence of laboratory and x-ray services undoubtedly is related to the prevalence of chronic diseases and their medical management, since these services normally are obtained only upon orders from a physician.

Receipt of these services varied little by sex; it was slightly lower for both men and women 75 and over than for those aged 65-74 (Table 7.12).

Table 7.12. Numbers and Percentages of Persons Who Had Laboratory Tests or X-rays During Two-Year Period, by Age and Sex, Household Survey of the Aged, Pinellas County, 1959.

Sex and age	Total No.*	Users	
		No.	Pct.
Both sexes	2,277	966	42.4
65-74	1,599	698	43.7
75+	678	268	39.5
Male	1,105	466	42.2
65-74	755	333	44.1
75+	350	133	38.0
Female	1,172	500	42.7
65-74	844	365	43.2
75+	328	135	41.2

* Excludes persons for whom age or use of laboratory tests and or x-rays was not reported.

Hearing Aids

Only 120 persons, comprising 4.7 percent of the sample population, were using hearing aids. More males (5.2%) than females (4.2%) had such devices. Of the 129 persons who owned hearing aids, 76 (58.9%) said that they were operating satisfactorily for them, 49 (38.0%) regarded them as unsatisfactory, and the remainder, 4 (3.1%) did not express an opinion.

Utilization of Selected Medical Services and Facilities: The Sick Compared with the Relatively Well

Thus far attention has been focused on the utilization of various medical services by the members of the sample population. The findings indicate the kinds of services consumed, the quantities and the variation according to sex, age, and income status. Evidence has not indicated whether medical services were being obtained by the ill persons in greater degree than by those in good health. From the public health point of view, the distribution of services in accordance with apparent need is important. An analysis should reveal discrepancies that may exist, and an understanding of such variances will suggest how public health agencies may seek improvement of the health care and, therefore, of the health conditions of older people.

In order to obtain necessary data, a means of separating the respondents into those in good health and those in poor health was necessary. This required the mechanical application of arbitrary criteria. Even if exhaustive clinical information had been available the judgments as to good and poor health by a team of physicians would have resulted in the classifications remaining arbitrary because of the difficulty in arriving at a uniform set of criteria and the differences among physicians in their assessments.

Precedents have been established for the computation, mechanically but systematically, of such health indices for use in the interpretation of survey results[1,2]. The data on patterns of health-care behavior would remain relatively meaningless in the absence of a scheme for separating the sample members into those who evidently needed and those who evidently did not need medical care. It was recognized that the use of a health index providing approximate measures could be justified on the basis of the goal since this index is intended to differentiate large population groups rather than individuals. For the purpose of public health planning it is essential merely to insure that the technique used is *generally* accurate in classifying individuals into two groups; if some individuals were misclassified, this error would not seriously invalidate comparisons so long as the majority had been correctly classified.

The index was constructed by utilizing data of four kinds: (1) number of symptoms, (2) number of diagnoses of chronic conditions, (3) limitation of activity, and (4) limitation of mobility. The nature of these indicators was explained in Chapter 6. The four indicators and the scores derived are as follows:

1. Symptoms:

Number of symptoms	Scores
0	0
1	1
2-3	2
4-7	3
8+	4

2. Chronic conditions:

Number of conditions	Scores
0	0
1	1
2	2
3	3
4+	4

3. Limitation of activity:

Degree of Limitation	Scores
None	0
Unable to garden	1
Unable to shop or climb stairs	2
Unable to do housework or walk	3
Greater degree	4

4. Limitation of mobility:

Degree of limitation	Scores
None	0
Confined to house	2
Confined to chair	3
Confined to bed	4

If the total of the component scores for an individual was six or more, he was classified as in "poor" health; if less than six, as in "good" health. Independent rating by a physician of a subsample of the interview schedules agreed with the good-poor classification in about 90 percent of the cases. Accordingly, the technique was regarded as accurate enough for the objective for which it was devised.

The distribution of the total sample population by sex, age, and health rating is shown in Table 7.13.

Table 7.13. Numbers and Percentages of Persons According to Health Index, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

			Health Index			
	Total*		Good		Poor	
Sex and age	No.	Pct.	No.	Pct.	No.	Pct.
Both sexes	2,529	100.0	1,895	74.9	634	25.1
65-74	1,765	100.0	1,365	77.3	400	22.7
75+	764	100.0	530	69.4	234	30.6
Male	1,245	100.0	963	77.3	282	22.7
65-74	847	100.0	672	79.3	175	20.7
75+	398	100.0	291	73.1	107	26.9
Female	1,284	100.0	932	72.6	352	27.4
65-74	918	100.0	693	75.5	225	24.5
75+	366	100.0	239	65.3	127	34.7

* Excludes respondents whose age was not reported.

The remainder of this section and the corresponding section dealing with the costs of health care make use of this division of the sample population on the basis of the health index.

Medical Practitioners

The median number of visits to or from physicians (M.D.) reported by persons in poor health was three times as great as for those in good health (Table 7.14). Based on the median visits for all respondents (6.36 visits), males in good health had 73.7 percent of their prorata share of visits, males in poor health, 216.2 percent of their share; females in good health, 73.1 percent, and females in poor health, 234.7 percent.

For those in good health, median visits varied slightly by age. The pattern for persons in poor health was different and varied for males and females. Among the men, the median number of visits rose from 12.63 visits at 65-74 to 16.19 visits at 75-84, then fell to 9.00 visits for men in the oldest category. Among the women, the median visits were highest at ages 65-74 and at a lower level at ages 75-84 and 85 and over.

Table 7.14. Median Physician (M.D.) Visits According to Health Index, by Sex and Age, Household Survey of the Aged, Pinellas County, 1959.

		Age		
Sex and health index	Total	65-74	75-84	85+
Both sexes	6.36	6.16	6.98	5.80
Good health	4.67	4.64	4.69	5.00
Poor health	14.41	14.37	14.59	10.00
Male	6.21	6.02	6.85	6.00
Good health	4.69	4.66	4.63	5.50
Poor health	13.75	12.63	16.19	9.00
Female	6.51	6.30	7.08	5.00
Good health	4.65	4.62	4.79	4.25
Poor health	14.93	15.53	12.50	12.50

On the basis of use of a physician's services one or more times during the course of the two-year period of observation, there was considerable difference between the relatively well and the relatively sick (Table 7.15).

Table 7.15. Percentages of Persons Who Used the Services of Physicians (M.D.) During Two-Year Period, by Sex, Age and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and age	Good health	Poor health
Both sexes	68.4	95.9
65-74	68.3	96.5
75+	68.9	94.9
Male	67.3	96.5
65-74	68.0	96.6
75+	65.6	96.3
Female	69.6	95.5
65-74	68.5	96.4
75+	72.8	93.7

* Persons whose age was not reported excluded from computations.

Of those in poor health, more than 19 of every 20 had made use of physician services, while less than 7 in 10 of those in good health had done so. There was no significant difference according to age and sex.

The tendency for use of physician services to be directly related to annual family income prevailed for those in good health as well as for those in poor health (Table 7.16). Of the 265 persons whose income was reported as less than $2,000 per year and whose health according to the index was poor, all but 18 (6.8%) had seen a physician in the preceding two years; of the 360 persons with income of $2,000 or over whose health was rated poor, all but nine (2.5%) had visited a physician at least once. Thus, almost all persons in poor health, irrespective of income, received some services

Table [illegible] Percentages of Persons Who Used Services of Physicians (M.D.) During Two-Year Period According to Health Index, by Sex and Income, Household Survey of the Aged, Pinellas County, 1959.*

	Users of physician (M.D.) services	
Sex and income	Good health	Poor health
Both sexes		
Less than $2,000	60.8	93.2
$2,000+	72.7	97.5
Male		
Less than $2,000	57.5	95.8
$2,000+	70.6	96.7
Female		
Less than $2,000	62.7	91.8
$2,000+	75.7	98.3

* Excludes respondents whose income was not reported.

from physicians. Considering those in good health, a lower percentage had used physicians' services during the two years, and those of low income had received appreciably less service than those with higher income.

Dentists

The foregoing analysis showed that persons in poor health consumed, on the average, considerably more practitioner service than those in good health, but the opposite appears to be true regarding dental service. A substantially larger proportion of the respondents in poor health had not visited a dentist for three years or more (Table 7.17). The same finding holds for males and females considered as separate groups.

Table 7.17. Percentages of Persons Who Had Not Visited a Dentist for Three Years or More, by Sex, Age, and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and age	Three years or more	
	Good health	Poor health
Both sexes	50.7	57.5
65-74	47.6	56.8
75+	59.8	59.9
Male	53.7	64.0
65-74	50.6	63.6
75+	59.7	63.8
Female	48.6	53.3
65-74	44.7	51.6
75+	60.1	56.6

* For number of persons, see Table 7.13. This table excludes respondents for whom the interval since last dental visit was not reported.

For the sample as a whole, the unfavorable differential as to dental care of those in poor health prevailed at ages 65-74 but not at age 75 and over, where there were virtually identical percentages of the well and the sick in the two dental-care intervals. The relatively sick, however, proved less likely than the relatively well to have obtained dental care within the past three years in all age-sex categories except females aged 75 and over.

The effect of annual family income in bringing about these relationships is presented in Table 7.18. These data indicate that even when the amount of income is controlled, persons in good health tend to receive more dental care--as evidenced by the interval since the most recent visit to a dentist--than do those in poor health. The single exception is women aged

75 and over who, while in poor health, on the average obtained care by a dentist more recently than those in good health.

Table 7.18. Percentages of Persons According to Interval Since Last Visit to a Dentist, by Sex, Age, Income and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

	Three years or more since last dental visit	
Sex, age and income	Good health	Poor health
Both sexes		
Less than $2,000	60.6	69.3
$2,000+	45.9	49.7
65-74		
Less than $2,000	53.7	66.0
$2,000+	44.6	51.4
75+		
Less than $2,000	73.9	71.9
$2,000+	49.0	47.8
Male		
Less than $2,000	66.8	76.8
$2,000+	48.9	57.4
65-74		
Less than $2,000	57.9	70.2
$2,000+	48.5	61.1
75+		
Less than $2,000	78.6	81.0
$2,000+	48.9	52.4
Female		
Less than $2,000	56.9	65.1
$2,000+	41.6	41.7
65-74		
Less than $2,000	51.6	64.0
$2,000+	39.5	41.6
75+		
Less than $2,000	69.7	66.7
$2,000+	49.0	42.0

* For number of persons, see Table 7.13. This table excludes respondents whose income or interval since last dental visit was not reported.

Hospitals

The sick as defined by the index were more than twice as likely to have been hospitalized during the two-year period of observation (Table 7.19). While less than one fifth of the respondents in good health spent some time in hospitals, about two fifths of those in poor health were admitted. Hospitalization of males in poor health was more than twice as common as for those in good health; for females the difference was more than two and a half times.

The tendency for a higher proportion of the sick than the well to be hospitalized was less pronounced at age 75 and over than at ages 65-74. At the lower ages, the proportion in poor health hospitalized was two and one-half times greater than the corresponding proportion in good health; at the higher ages, however, twice as many in poor health as in good health, relatively, had had hospital treatment. This decrease in the relative excess of hospitalization of the sick as compared with the well at age 75 and over is accounted for by the experience of the females. For them, at ages 65-74, three times as large a share of those in poor health as those in good health were hospitalized, while among those at the higher ages less than twice as many of the sick as compared with the well reported one or more hospital admissions (Table 7.19).

Table 7.19. Percentages of Persons Who Had Been Hospitalized During Two-Year Period, by Sex, Age, and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and age	Hospitalized during two-year period: Good health	Hospitalized during two-year period: Poor health
Both sexes	17.9	41.1
65-74	17.6	43.6
75+	18.9	36.8
Male	20.4	42.6
65-74	20.8	43.4
75+	19.5	41.1
Female	15.4	39.9
65-74	14.4	43.7
75+	18.3	33.1

* For numbers of persons, see Table 7.13.

The data on hospitalization according to income status reveal very small differences for those in good or in poor health (Table 7.20).

Table 7.20. Percentages of Persons Who Had Been Hospitalized During Two-Year Period, by Sex, Income, and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and Income	Hospitalized during two-year period: Good health	Hospitalized during two-year period: Poor health
Both sexes		
Less than $2,000	15.4	40.1
$2,000+	19.8	41.9
Male		
Less than $2,000	16.6	37.9
$2,000+	22.9	44.8
Female		
Less than $2,000	14.7	41.3
$2,000+	15.4	38.9

* For number of persons, see Table 7.13. This table excludes respondents whose annual family income was not reported.

Medicines and Drugs

As would be expected, frequency of use of medicines and drugs varied decidedly on the basis of health rating. Four fifths of the respondents whose health was poor, as against somewhat more than half of those whose health was good, reported daily use of medicinal preparations (Table 7.21).

Table 7.21 Percentages of Persons According to Frequency of Use of Medicines and Drugs, by Sex and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and frequency	Good health	Poor health
Both sexes		
Daily	54.9	80.6
Weekly	2.5	1.6
Rarely	5.4	1.3
When ill only	33.5	13.6
Not reported	3.7	2.9
Male		
Daily	53.3	82.5
Weekly	2.9	1.1
Rarely	5.1	1.8
When ill only	35.0	11.6
Not reported	3.7	3.0
Female		
Daily	56.5	79.2
Weekly	2.2	2.0
Rarely	5.6	0.9
When ill only	32.1	15.0
Not reported	3.6	2.9

* This table relates to those respondents who used medicines and drugs; other persons have been omitted.

While about one eighth of those in poor health took medicines only when ill, a third of those in good health followed this practice. The same relationships prevailed for men and women separately.

Nearly all the respondents whose health was poor reported the use of medicines and drugs during the two years, while less than two thirds of those in good health gave the corresponding response (Table 7.22). Among the relatively well, persons with an annual income of $2,000 or more were a little more likely than those with less than that amount to have utilized medicines. Among those in relatively poor health almost 100 percent used medicines, regardless of the income class.

Table 7.22. Percentages of Persons Who Used Medicines and Drugs, During Two-Year Period, by Sex, Income and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and income	Used medicines and drugs	
	Good health	Poor health
Both sexes		
Less than $2,000	62.7	97.4
$2,000+	65.6	97.2
Male		
Less than $2,000	57.5	96.8
$2,000+	62.6	97.3
Female		
Less than $2,000	65.9	97.7
$2,000+	69.9	97.1

* For number of persons, see Table 7.13. This table excludes respondents whose annual family income and/or use of drugs and medicines was not reported.

Laboratory Tests and X-rays

Nearly twice as large a proportion of those in poor health as of those in good health had had laboratory tests or x-rays (Table 7.23). From the opposite point of view, only one fourth of the sick had not had one or more such services as compared with three fifths of the well.

A higher proportion of men than of women in good health had used these services; however, of persons in poor health, a larger proportion of women reported tests or x-rays. The differences were relatively small in both instances.

Utilization of these services was lower at age 75 and over than at ages 65-74 for both men and women, regardless of health status. The lower rate of use at the higher ages was especially pronounced among persons in poor health.

Table 7.23. Percentages of Persons Who Had Laboratory Tests and X-rays During Two-Year Period, by Sex, Age, and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and age	Used laboratory and x-rays during two-year period	
	Good health	Poor health
Both sexes	39.8	74.5
65-74	40.6	78.4
75+	37.7	67.5
Male	41.6	73.0
65-74	43.0	76.4
75+	38.4	67.3
Female	37.9	75.6
65-74	38.2	79.9
75+	36.9	67.7

* Excludes persons whose age and/or use of these services was not reported.

Regardless of health status, persons with higher incomes, on the average, were more likely to have had laboratory tests and x-rays than those in the lower income class (Table 7.24). Amount of income made a greater difference in utilization rates for those in good health, a finding consistent with that between the volume of physician care and income. It is notable that one third of those with annual incomes below $2,000 rated by the health index as being in relatively good health had used laboratory services at least once during the two years, and it is even more notable that among those in the lower income class rated as having poor health, two thirds had received such services.

Table 7.24. Percentages of Persons Who Had Laboratory Tests and X-rays During Two-Year Period, by Sex, Income, and Health Index, Household Survey of the Aged, Pinellas County, 1959.*

Sex and income	Used laboratory and x-rays during two-year period	
	Good health	Poor health
Both sexes		
Less than $2,000	32.8	67.0
$2,000+	43.8	79.9
Male		
Less than $2,000	33.2	63.2
$2,000+	45.5	78.1
Female		
Less than $2,000	32.6	69.2
$2,000+	41.4	81.7

* Excludes 107 persons whose income was not reported.

Similar differences prevailed for males and females. The lowest utilization rate prevailed for women with less than $2,000 per year who were in good health (32.6%); the highest, for women with $2,000 or more per year who were in poor health (81.7%).

Comparison of Utilization Rates with National Norms

Statistics indicate considerably lower levels of utilization of physician care in Pinellas County than in the nation for a comparable period (Table 7.25); however, the National Health Survey design related to one year preceding the interview in which information was sought, while the present survey related to two years. Recall is less and less reliable as the length of the period of retrospective observation increases. Accordingly, the one-year rates for Pinellas County

Table 7.25. Average Annual Number of Physician Visits per Person per Year for Persons 65 Years and Older, by Sex and Age, United States, 1957-1959, and Pinellas County, 1959.

Sex and age	Number of visits per person per year	
	United States	Pinellas County*
Both sexes	6.8	4.8
Male	6.1	4.6
Female	7.3	5.0
65-74	6.5	4.4
75+	7.3	5.7

* Data collected on the basis of two-years' experience. Statistics shown are one half of the two-year figures.

as shown in the table may understate the number of visits. The description of the sample and the analysis of recent migrants indicated that their socioeconomic level was somewhat higher than that of older people of the United States as a whole. Moreover, 15 percent of those who had taken up residence within the past four years had chosen Florida because of specific health problems. Thus it appears likely that they were in a better-than-average position to purchase medical care and that a considerable proportion had arrived in the area with above-average requirements for physician services.

With regard to other types of medical services discussed earlier in this chapter, comparable national data are not available.

Costs of Selected Medical Services and Facilities: Sample as a Whole

Each respondent was asked to report the cost of each type of medical service he had used during the two-year period. When it was not possible to state the exact cost, he was requested to provide an approximation. It appeared likely that overstatements and understatements resulting from inability to recall exact amounts tended to be offsetting. However, biases may have resulted from conscious or unconscious tendencies to exaggerate or minimize medical-care expenditures. For example, persons favoring governmental programs of additional provision for medical care may have felt that their interests would be served best by making costs appear high, while those opposing such programs, especially persons with large resources, may have tended to report lower than actual costs. In the absence of records to corroborate the financial reports secured by interviewers, these uncertainties cannot be resolved. However, in many cases, respondents consulted invoices, statements, and cancelled checks in an effort to be as accurate as possible. Based upon discussions with the interviewers and inspection of the individual schedules for internal consistency, it is believed that the vast majority of the reports were made in a truthful manner.

Physicians (M.D.)

The largest proportion of the respondents – more than one fourth–reported expenditures of $10-$49 for the services of physicians (M.D.) during the two-year period (Table 7.26). However, almost as large a percentage had no expense for such care. Those whose expense was below $100 comprised three fourths (76.4%) of the sample. Differences for males and females were negligible.

Table 7.26. Number and Percentage of Persons, and Total Amount, Percentage, and Average Amount of Expenditures During Two-Year Period for Physician (M.D.) Services, by Cost Class, Household Survey of the Aged, Pinellas County, 1959.

	Persons		Expenditures		
Cost	No.	Pct.	Total	Pct.	Average
Total	2,485*	100.0	$234,644	100.0	$ 94
None	683	27.5	0	0	0
Less than $10	200	8.0	1,115	0.5	6
$10-$49	708	28.5	16,128	6.9	23
$50-$99	307	12.4	19,862	8.5	65
$100-$199	240	9.7	31,303	13.3	130
$200-$399	203	8.2	53,930	23.0	266
$400-$599	76	3.1	34,908	14.8	459
$600-$999	41	1.6	28,618	12.2	698
$1,000+	27	1.1	48,780	20.8	1,807

* Excludes 59 respondents who failed to report amounts spent for this service.

The average expense for care by physicians (M.D.) for all respondents, regardless of whether they received such service, amounted to $94 during the two-year period. (For those who had physician expense, and reported the amount, expenditures averaged $130 per person.) Relatively small numbers of older people accounted for a decidedly large share of total costs. The 27 individuals who had expenses of $1,000 or more, for example, comprised only 1.1 percent of those reporting the amounts, yet their spending amounted to 20.8 percent of all expenditures. Similarly, the 347 persons who spent $200 or more during the period were 14.0 percent of all respondents reporting expenditures, but their expense amounted to 70.8 percent of total spending.

Expenditures by males were higher than those for females ($101 compared with $83), but the difference resulted almost entirely from the costs incurred by 17 males with spending in excess of $1,000 per person. Although they comprised only 1.4 percent of males reporting amounts spent, their expenditures made up 27.5 percent of total payments by men.

Hospitals

With regard to amounts paid by members of the sample for hospitalization, a distribution much like that in the case of physician expenses was found; that is, relatively few incurred a large share of the expense (Table 7.27). Persons with costs of $1,000 or more, totaling $79,633, comprised only 1.8 percent of all respondents and 8.3 percent of those with hospital expense of known amount; yet they accounted for 37.2 percent of all funds spent for hospitalization during the two years. Similarly, those with costs of $600 or more per person, totaling $122,417, made up 4.0 percent of all respondents and 18.1 percent of those with exact expenditures reported; but their payments amounted to 57.2 percent of total expenditures.

Considering users only, application of data from Table

Table 7.27. Number and Percentage of Persons, and Total Amount, Percentage, and Average Amount of Expenditures During Two-Year Period for Hospitalization, by Cost Class, Household Survey of the Aged, Pinellas County, 1959.

Cost	Persons		Expenditures		
	No.	Pct.	Total	Pct.	Average
Total	2,497*	100.0**	$213,842	100.0**	$ 86
None	1,940	77.7	0		
No cost	48***	1.9	0		0
Less than $10	6	0.2	32	****	5
$10-$49	37	1.9	969	0.5	26
$50-$99	42	1.7	2,933	1.4	70
$100-$199	107	4.3	15,185	7.1	142
$200-$399	154	6.2	42,562	19.9	276
$400-$599	62	2.5	29,744	13.9	480
$600-$999	55	2.2	42,784	20.0	779
$1,000+	46	1.8	79,633	37.2	1,731

* Excludes 47 respondents who used but failed to report amounts spent for this service.

** Because of rounding, these percentages do not total 100.0.

*** These respondents were hospitalized at third party expense, i.e., welfare, military, veterans.

**** Less than 0.1 percent.

7.27 shows that the largest cost class, $200-$399, accounted for more than one-quarter (27.6%) of those hospitalized. The next largest number of users had costs varying from $100-$199 (19.2%); and the third largest number had costs from $400-$599 for the two years. About one fifth of the respondents (18.1%) paid hospital expenses of $600 or more. A total of 48 persons (8.6%) reported use that was paid by third parties such as welfare agencies, the military services, and the Veterans Administration. The median range of expenditures of hospitalized respondents was $200-$399. Other data showed that sex differences in spending by cost class were not remarkable.

Medicines and Drugs

Because of the nature of the expenditures, costs of medicines and drugs are perhaps the least likely of the medical services to have been reported accurately. Individuals whose only or major preparations were prescribed drugs taken on a periodic basis would have been able to estimate rather exactly the expense over the two-year span. It is reasonable to suspect, however, that a substantial proportion of the respondents had purchased a variety of prescription and nonprescription drugs as well as vitamins, minerals, "tonics," and household remedies during the period and that they could give only an approximation of the amount of such expenditures.

Table 7.28. Number and Percentage of Persons, and Total Amount, Percentage, and Average Amount of Expenditures During Two-Year Period for Medicines and Drugs, by Cost Class, Household Survey of the Aged, Pinellas County, 1959.

	Persons		Expenditures		
Cost	No.	Pct.	Total	Pct.	Average
Total	2,444*	100.0	$254,277	100.0	$ 104
None	943	38.6	0	0	0
Less than $10	115	4.7	533	0.2	5
$10-$49	369	15.1	11,159	4.4	30
$50-$99	254	10.4	18,890	7.4	74
$100-$199	343	14.0	50,235	19.8	146
$200-$399	309	12.7	90,782	35.7	294
$400-$599	59	2.4	31,596	12.4	536
$600-$999	46	1.9	39,334	15.5	855
$1000+	6	0.2	11,748	4.6	1,958

* Excludes 100 respondents who failed to report amounts spent for this service.

Of those having expense for medicines and drugs, the largest proportion had costs in the $10-$49 range, the median was $100-$199 (Table 7.28). Although use of drugs and medicines was a common practice, a fairly large share of the respondents spent relatively small amounts during the period. Thus half of the users (49.2%) reported expenditures of less than $100, or an average of less than $50 per year. Of all respondents, excluding those not reporting amount of expense, more than half (58.4%) had spent less than $50 in the two years, or under $25 on the average per year. Because of the commonness of this health-care practice, expenditures in the aggregate were high.

The distribution of expenditures by sex does not reveal any consistent differences except that average expenses of males exceeded slightly those of females.

The cost pattern for medicines and drugs differed from that for physician services and hospitalization. Expenditures were concentrated to a much smaller degree among a few individuals who experienced high costs. The six persons who spent $1,000 or more made up 0.2 percent of all respondents and 0.4 percent of all users of medicines and drugs, yet their total expenditures comprised 4.6 percent of total costs, a much less striking imbalance than that observed for physician services and hospitalization. Mean expenses for two years of those who used medicines and drugs ($169) were lower than the corresponding figures for users of hospital service ($384) and higher than that for users of physician service ($130).

Total Cost of Selected Medical Services

Table 7.29 contains data regarding total expenditures of the respondents for one or more of the following medical services: physician (M.D. and/or D.O.), chiropractor and/or other non-M.D.-D.O. practitioner, public or private clinic, hospital, nursing home, visiting nurse, full-time nurse at home, laboratory tests and x-rays, and medicines and drugs. The figures do not include costs of dental care and health and hospitalization insurance. In view of these omissions, the possible understatement of costs for medicines and drugs, and the underestimations of expense resulting from inability of recall over the two-year observation period, it can be stated without qualification that the figures shown in the table fall decidedly short of the total costs of medical services for the sample population.

Table 7.29. Number and Percentage of Persons, and Total Amount, Percentage, and Average Amount of Expenditures During Two-Year Period for Selected Medical Services,* by Cost Class, Household Survey of the Aged, Pinellas County, 1959.

	Persons		Expenditures		
Cost	No.	Pct.	Total	Pct.	Average
Total	2,509**	100.0	$784,502	100.0	$ 313
None	407	16.2	0	0	0
Less than $10	115	4.6	597	0.1	5
$10-$49	407	16.2	9,971	1.3	24
$50-$99	291	11.6	20,731	2.6	71
$100-$199	347	13.8	49,596	6.3	143
$200-$399	367	14.7	106,195	13.5	289
$400-$599	198	7.9	96,004	12.2	485
$600-$999	169	6.7	128,981	16.5	763
$1000+	208	8.3	372,427	47.5	1,791

* Includes one or more of the following services: physicians (M.D. and D.O.), chiropractors and other non-M.D.-D.O. practitioners, clinics, hospitals, nursing homes, visiting nurses, full-time nurses at home, laboratory tests and x-rays, and medicines and drugs.

** Excludes 35 respondents who failed to report amounts for these services.

The commonest category for those with medical expense was $10-49. The median cost class for respondents, whether or not they had medical expense during the two-year period, proved to be $100-$199.

An examination of actual expenditures according to cost class revealed the same general pattern that has emerged in regard to the component medical costs, a wide range of costs with striking concentration among a few respondents. The contrast is exemplified by the observation that 115 persons reported spending an average of $5 for the two years–$2.50 per year–while at the opposite extreme 208 persons paid an average of $1,791–or $896 per year.

Based on the estimated sample ratio of 2.96 percent, total expenditures for the selected medical services expanded to the noninstitutional population of Pinellas County as of 1959 are presented in Table 7.30. It must be stressed that the figures undoubtedly reflect underestimates of costs (resulting from factors already discussed) and, therefore, must be regarded only as approximations. The data are interesting because of the indication that persons 65 and over not living in institutions spent $26.5 millions during the two-year period for services that do not include dental care and health and hospital insurance. The three component medical services–physicians, hospitals, and medicines and drugs–account for nine tenths of all expenditures for the selected medical services. Spending for medicines and drugs represented the

Table 7.30. Estimates of Costs of Selected Medical Services for the Noninstitutional Population Aged 65 and Over, Pinellas County, 1957-1959.

Service	Sample	Total noninstitutional population aged 65+, Pinellas County	
		Amount	Percentage*
Selected medical services**	$784,502	$26,485,801	100.0
Physicians (M.D. and D.O.)	234,644	7,921,816	29.9
Hospitals	213,842	7,219,749	27.3
Medicines and drugs	254,277	8,584,646	32.4

* Percentages do not total 100.0 because of omission from this table of costs of several medical services.

** Includes the following: physicians (M.D. and D.O.), chiropractors and other non-M.D. D.O. practitioners, clinics, hospitals, nursing homes, visiting nurses, full time nurses at home, laboratory tests and x-rays, and medicines and drugs.

largest outlay; expense for physician services the next largest; and that for hospital costs, the third largest.

Comparison of Costs with National Norms

The comparative data presented in Table 7.31 were obtained by use of different methods. In the county survey, costs and other data were obtained in the course of a single interview; in the national survey, upon completion of the routine interview, the worker left with the informant forms relating to medical costs which were to be completed and returned by mail. The NHS methed permitted household members to consult records and, therefore, probably eventuated in more complete and accurate returns. Moreover, the information relates to a one-year period rather than the two-year period used in the Pinellas study; and the losses of incidents and of accuracy through failure of complete recall have been mentioned. Finally, the available national data are for a year ending between July and December, 1962, and the county data relate to two earlier years ending in 1959.

Table 7.31. Health Expenses per Person per Year for Selected Types of Expense for the Noninstitutional Population Aged 65+, United States, July-December, 1962,[1] and Pinellas County, 1957-1959.

Type of Expense	United States	Pinellas County*
Doctor	$62	$47
Hospital	53	43
Medicine	54	52

* One half of two year experience. In computing these averages, persons who used the services but did not state cost were omitted.

Pinellas County respondents reported the largest expenditures per person for medicines and drugs; those in the United States at large, for doctors. Compared with the national norm, expenditures for medicines in Pinellas County were large constituting 96 percent of the NHS figure, compared with 81 percent in the case of hospitals and 76 percent for doctors. This may reflect more spending by older people in the county for medicines and drugs than is true for the nation as a whole.

Summary

Analysis of utilization and costs of medical services during a two-year period by the older population of Pinellas County has revealed these findings:

1. Physician care was received one or more times by a larger proportion of the respondents (81.7%) than any other medical service; other types of medical services used by large percentages were medicines and drugs (72.8%), laboratory tests and x-rays (48.5%), and hospitals (23.7%).

2. Four fifths of all persons stated that they had a physician in the city or county who regularly took care of their illnesses.

3. The degree to which physician (M.D. and D.O.) services were used varied widely: over one fifth of the respondents (22.9%) reported no visits; about one fourth, fewer than four; and nearly one seventh (13.7%), 20 or more.

4. About one half (51.5%) of those interviewed said that they had a "regular" dentist.

5. One third (32.8%) of the sample members had seen a dentist for professional service within the year preceding the interview, but more than one half (52.5%) had not had care within a three-year period.

6. Dental-care behavior of the edentulous and the non-edentulous contrasted: three fourths (74.3%) of the former had not received dental care within the past three years, while three fourths (75.5%) of the latter *had* obtained dental service within that time span.

7. Less than one tenth (7.0%) of the respondents utilized the services of chiropractors and other non-M.D.-D.O. practitioners.

8. Of those hospitalized, the median patient remained 11 days, but one fourth (24.2%) reported hospital stays of 20 days or more.

9. Only 12 persons (0.5%) had been patients in nursing homes during the two-year period.

10. One twentieth of the sample population (5.0%) had obtained medical service at public or private clinics.

11. Of the large proportion who reported use of medicines and drugs, nearly one half (47.4%) took such preparations daily.

12. A considerable share (45.0%) of those who had utilized laboratory services had done so only once or twice, but over one twentieth (5.5%) reported using tests and/or x-rays more than 10 times during the two-year observation period.

13. Approximately one twentieth (4.7%) of the sample population used hearing aids; four out of ten regarded them as unsatisfactory.

14. Those respondents rated by use of a health index as in poor health obtained a much higher volume of physician, dental, and hospital services, used medicines and drugs more frequently, and received more laboratory tests and x-rays than those defined as being in good health.

15. For all respondents, regardless of whether they received the individual medical services, physician costs averaged $94 for the two years, hospital charges $86, and costs of medicines and drugs, $104.

16. For those respondents who made use of the individual services and reported expenditures, physician costs for two years averaged $130, hospital charges, $384, and costs of medicines and drugs, $169.

17. The reported combined costs of services of physicians (M.D. and D.O.), chiropractors and other non-M.D.-D.O. practitioners, clinics, hospitals, nursing homes, visiting nurses, full-time nurses at home, laboratories and x-rays, and medicines and drugs averaged $313 for all respondents and $373 for those who used one or more of the services.

18. It is estimated that the total expenditures of the population of Pinellas County aged 65 and over for the medical services listed in (17) above (excluding dental and health insurance costs) for the two-year period 1957-1959 approximated $26.5 millions.

19. Relatively more females than males used medicines and drugs and the services of physicians, dentists, and chiropractors and other non-M.D.-D.O. practitioners.

20. The use of physicians and medicines and drugs tended

to become greater at the higher ages, while the use of dentists and laboratory services tended to decrease with age.

21. Receipt of physician services was directly related to annual family income.

22. Among persons classified as having good health, relatively more males than females were hospitalized and used laboratory services, while there was no sex differential for use of physicians; among those classified as in poor health, a higher proportion of females than of males had laboratory tests and received dental care, but a higher proportion of the males were hospitalized.

23. Among the relatively well, receipt of hospital services tended to become greater with age, while the opposite tendency prevailed for the use of dentists and laboratory services; among the relatively sick, on the other hand, use of physicians, dentists, hospitals, and laboratory service decreased with advancing age.

24. A direct relationship existed between amount of income and use of physicians, dentists, hospitals, and laboratory services for those in good and in poor health.

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CHAPTER 8

Supplementary Studies

A prominent objective of the research group was to utilize the accumulated findings as a guide for designing or improving health programs to meet demonstrated needs. The numbers of those with chronic illness living alone or with an aged partner indicated the desirability of expanding home health services. More precise information concerning public health and visiting nurse needs and the possible role of homemaker services was essential, however, for the household survey had provided little information on home services and none regarding possible gaps in services to those in nursing homes. Studies were developed to obtain supplementary observations.

Senility was an obvious problem particularly among the aged in nursing homes. Determination of incidence or prevalence or measurement of its relative degree in the individual were impossible due to lack of usable test instruments. The possibility of developing such an investigative tool was suggested by a senior staff member of the Division of Chronic Diseases, U. S. Public Health Service. With support provided by a separate contract, the research division assumed responsibility for this related but independent investigation designed to develop a screening test for senility.

The findings of four supplementary studies are described in this chapter.

Extrahospital Nursing Needs

Pinellas County had a tax-supported public health nursing program and, under the same direction, two voluntary visiting nurse agencies serving different areas of the county deriving support from public contributions and fee-for-service collections. The former devoted major attention to maternal and child health, while the latter provided bedside nursing care predominantly to aged clients. Those guiding these programs questioned whether their efforts were yielding maximum benefits where most needed and appreciated the potential value of a detailed examination of extrahospital nursing needs.

Two other conditions made this supplementary study practicable. An investigation of the desired type had been completed in Butler County, Pennsylvania, by Professor

Janice Mickey of the Graduate School of Public Health, University of Pittsburgh. She had expressed the hope that this would be replicated in other communities. Thus a schedule and a manual of detailed instructions and a consultant were available. But any study involving home interviews of a substantial sample is costly. The study could be done within the research division with the aid of senior personnel, if additional funds were available. These were provided through a two-year project grant from the Bureau of State Services, U. S. Public Health Service. The supervisor of the visiting nurse program, Miss Mary K. Pratt, joined the Research Division as Project Director. A full report of findings has been submitted. A summary of the plan of the investigation and some of the observations are given here.

The objectives of this study were to determine the nature and the extent of extrahospital nursing needs in a random sample of Pinellas County households. The sample of 3.200 addresses was drawn by the research division by an area-sampling design. Six experienced public health nurses served as interviewers. The use of professional personnel was essential since the design of the study required that the nurse interviewer make three independent judgments. The presence and severity of a health problem was measured on a five point scale from none to critical. Also, the ability of the family to cope with the problem was indicated in five steps from unable to cope to excellent ability. Lastly, there was a judgment as to whether home nursing could solve or ameliorate the problem. The detailed manual of instructions defined the degrees of severity of health problems and the varying abilities to cope with them. The nurses made their judgments in accordance with these instructions.

The interview elicited information adequate to classify the households for analytical purposes. This was done in two ways. Households were divided into four types according to age composition: (1) preschool children, (2) school-age children, (3) younger adults, (4) older adults. Specific definitions for these groupings were provided. Also, each household was classified according to socioeconomic status (SES) on the basis of the occupation of the head of the household. Thus, group I SES households included those in which the head was a professional, manager, official, or similar person in a high-status occupation. Group II included the families of farmers, craftsmen, foremen, and operatives. Group III household heads were domestics, laborers, and service workers.

Analysis of the data revealed that all but 3 percent of the households had some identified health problem, and more than one-half were judged to have need for home nursing visits. The following table of ten categories indicates the frequency of occurrence of problems and the judged need for the services of a public health or visiting nurse:

Category	Percentages of all households with health problems	Percentage of all households needing nursing visits
Total families	97.4	55.3
Food habits	82.1	66.4
Preventive health practices	52.5	34.2
Acute and long term illness	66.3	16.4
Dental practices	41.6	16.6
Accident prevention	20.3	16.2
Recreation	17.7	10.6
Sleep	24.5	9.8
Older age persons	22.1	8.1
School age children	10.6	7.9
Immunization	19.5	5.6

The most common health problem related to family food habits and the most common need was aid in the solving of this problem. The need for assistance with nutrition problems was particularly common in households with preschool children and those in the lower socioeconomic group. The need was least in households of older adults and in the highest socioeconomic group. The inquiry revealed the common occurrence of inadequate intake of essential foods such as green leafy and deep yellow vegetables, and milk and dairy products. Obesity and underweight were also important problems. It appeared obvious from the data that these problems justified considerable public health attention.

The preventive health practices category as defined was concerned with such things as chest x-rays, immunizations, and the need for medical care for preventive purposes. Of all households, 34 percent were considered to need nurse visits to guide in these matters. These needs were equally distributed among households of varying composition and in different SES groups. Contrary to prevailing opinion, households in the higher socioeconomic group had needs in this area as frequently as those in the lower socioeconomic class.

Almost half of all acute and long-term illness was among persons aged 65 and over. Two thirds of all households had problems in this category, but only a quarter of these were considered to need nursing visits. The need was approximately equal in households with older adults, younger adults, and families with children. There was greater need in the lower socioeconomic group.

The households most commonly in need of nursing assistance were not those of the aged, but those containing preschool children, particularly in the lowest socioeconomic group. Older adults were better able to handle their own problems and thus had less need for nursing support.

Only three of eighteen categories of extrahospital nursing interest have been mentioned here. Comparable data were obtained on all. The findings have been analyzed in detail and are available as a guide for the further development of specific and appropriate programs.

As an example, from the observations on family food habits, it could be estimated that for the entire county, approximately 93,000 households would profit from the aid of a public health nurse. It was clear that satisfying a need of this magnitude required cooperation of other health workers and coordination of plans particularly with those concerned with health education. Similarly, other inquiries revealed needs calling for the participation of physicians, dentists, dietitians, nutritionists, educators, social workers, and behavioral scientists. The findings have been used as a guide for the evolution of nursing and other services within the county. Developments of the next decade may be molded to a considerable degree by the observations of this supplementary study.

Homemaker Service Needs

The household survey of the aged indicated a high prevalence of chronic illness among older persons in Pinellas County, where nine out of ten individuals 65 years of age and older were found either to be living alone or with one other person, usually the spouse. About two thirds were suffering from one or more chronic diseases, and one of ten had a physical impairment causing limitation of activity or mobility

Those experienced in the provision of services to this segment of the population agreed that the ill and disabled aged are better emotionally, socially, and economically if they are cared for in their own homes. Homemaker programs aid in making this possible, and also serve to reduce the overcrowding of hospitals and nursing homes.

Public health and visiting nurses, social caseworkers, and physical therapists were providing professional services in the homes of those meeting specific agency qualifications for acceptance. However, at the beginning of this study, homemaker services were available only to families being served by the Juvenile Welfare Board. These general observations led to more specific studies of the current need and the potential role of a homemaker service. With the cooperation of agencies and individuals concerned, supplementary data were obtained.

In the spring of 1960, the public health nurses of the Pinellas County Health Department and those with the visiting nurse associations collected information about the 725 households visited by them in the course of their regular duties during a one-month period. There are seasonal variations in caseload and differences in program emphasis, but the findings appeared to be generally representative of the population served by them. The public health nurses tended to serve larger families with younger members, and the VNA nurses more commonly were called to homes with one or more elderly persons. However, for purposes of analysis, the observations of these two groups were combined. The one-page schedule used by them called for reasons for the visit, household composition, occupation of head of household, known health problems, and welfare status. Subsequently there was an evaluation of the current need for homemaker services according to specified criteria. In accordance with the evaluation, 46 (6.3%) of the 725 households contacted during the month were in need of homemaker service. There was a far higher incidence in households of one and two aged persons. Less need was found in the larger and in the nonwhite households. Slightly more than a third of the households with need were in the lowest socioeconomic group; about one fifth included one or more members receiving public assistance.

The caseworkers of the Florida Department of Public Welfare serving Pinellas County also obtained supplementary information on the 438 households they visited in a period of one month. One or more individuals in all of these were either applicants for or recipients of public assistance. This group was heavily weighted with nonwhite individuals; they represented half of the population surveyed but only one third of the households. Forty percent of the heads of the households were widowed persons. The caseworkers obtained the same type of information as the nurses and inquired in greater depth concerning illness and disability of family members. Of the 438 households surveyed, 71 percent had at least one ill person and over one third of them lived alone. Of households with illness 59 percent were composed only of individuals 65 years of age or over and four out of five lived either alone or with one other person. In accordance with the criteria employed, 17.6 percent of the households had immediate need for homemaker service.

A further inquiry was designed to assess the prevailing opinion of personnel of 22 of 26 appropriate community agencies concerning the need for homemaker service. There was consensus that the service was needed and agreement by 90 percent of the agencies that they had clients who would benefit from this service. No agency was able to provide a statistical estimate of the total need. Representatives of one third of the agencies felt they were able either to pay for homemaker service or assist budgetarily in the initiation of the program.

While these supplementary observations could not provide the basis for an estimation of the total need, they did reaffirm that the situation was common, particularly among the aged segment of the population and especially in the one and two-person families so numerous in this retirement community. It seemed obvious that there was a particular need for the service and that community agencies were in favor of establishing such a program.

Nursing Home Service Needs

During the summer of 1960 four physicians were assigned temporarily to the Research Division, Pinellas County Health Department, for the purpose of obtaining training and experience in research. As a special subproject of limited scope, a study of the receipt of physician care of nursing home residents and the degree to which nursing homes conformed to the rules and regulations of the Florida State Board of Health was undertaken. The purposes were to gain further knowledge about these nursing home practices, and to provide the opportunity for experience in research design, sampling, field work, and analyzing and reporting of results.

With the assistance of members of the research division the specific objectives and hypotheses to be tested were developed. An appropriate schedule of questions with instructions was formulated and a 25 percent systematic random sample of nursing home residents was drawn. Interviews were conducted by the four physicians. The administrators of the nursing homes provided certain information and made available patient records for examination.

In all, 26 nursing homes and four homes for the aged, and 217 residents were included in the study sample. The modal age group of these patients was 75-84. Women outnumbered men 2 to 1, the majority were widowed.

Medical care was measured in terms of whether or not residents were under physician supervision, and if so whether this was by physician visits to the home, patient visit to office or out-patient clinic, or by telephone consultation, and whether care was provided by an M.D. or other practitioner. It was found that 12 percent of the residents had had no medical care during the previous six months; 88.5 percent of private patients were receiving medical care as compared with 84.8 percent of welfare patients. About two thirds of all medical treatment was by physician visit to the nursing home, slightly more than a quarter by telephone consultation, and the small remainder (7 percent) at the doctor's office. There were no clinic visits. Over 90 percent of the care was provided by medical doctors.

Only one third of the homes complied with all rules and regulations relative to medical and patient records, and there was wide variability in completeness on various items. Required identification data were considered adequate for only 55 percent of patients. Just over one quarter had the required chest x-ray report on file. A referral record summarizing the patient's condition on admission was present for only 14.7 percent. All but 2 percent of the records had nurse observations.

In summary, there were moderately serious shortcomings in the manner in which necessary and required patient records were maintained in nursing homes and homes for the aged. It was believed that the situation could be improved by an expanded program of education for nursing home personnel and this was developed as described in the following chapter.

Senility

This supplementary study was directed toward the development of a useful screening test for senility. An investigation in this line was suggested by Dr. George Tokuhata of the Division of Chronic Diseases, U. S. Public Health Service. Knowing the composition of the research team in Pinellas County and the nature of their work, he inquired as to possible interest in adding studies of senility. It was indicated that such a supplementary investigation could be supported by a contract with his division. In view of the potential value of this in helping to define more precisely the health problems of the aging, the immediate response to this proposal was favorable. Florida Presbyterian College, St. Petersburg, acted as the contractor and the research division assumed administrative responsibility for the conduct of the project. This arrangement was necessary to make available the highly specialized senior investigators for this study. Dr. J. C. Dixon of the Department of Psychology, University of Florida, was able to assume responsibility for this study while on leave of absence from his university post. Appropriate quarters in close association with the research division were obtained. Of even greater importance, cooperation of community leaders and of selected institutions was required. Introductions to the proper persons opened the doors to what was needed. The short-term investigators thus were able to move in and to proceed expeditiously. This was attained at the expense of substantial time of the local research team.

The purposes of the study were to develop an operational definition of senility and to evolve or select screening tests to measure varying degrees and variations of this condition. To have practical value in surveys the test could not be too lengthy or difficult to administer. The instrument when available would be used in studies of incidence and prevalence and for epidemiological investigations. The ultimate purpose was to make a beginning in public health services which might have value in aiding in the prevention, detection and control of senility.

The findings of this project have been reported in detail elsewhere[1]; only the nature of the study and the results are presented here. Through library research the project director became familiar with the 500 more-or-less promising scales or schedules which might have value. On the basis of available information, three components of a test for senile mental impairment were evolved. First there was a scale of manifest behavior. For this, previously developed behavioral rating scales were examined. From these, items were selected in the light of findings in the literature on senility and related conditions. Then some 25 psychiatrists, other physicians, psychologists, nurses, and social workers who had had extended professional experience with senile conditions were asked to specify critical incidents of behavior which in his opinion distinguished senile from nonsenile reactions. Through this process short, positively worded statements of observable behavior were developed which could be rated for degree or frequency of occurrence. A 30-item scale was then used on a trial basis and was recast into 25 items in 5 subscales of 5 items each. This, as finally developed, can be completed by a knowledgeable rater in about five minutes. It was designed to be completed by two raters who had observed the subject closely during the preceding 30 days. Discrepancies in ratings are adjusted by a third person following a conference with the two preceding raters.

A psychological-status interview with eighteen items was adapted from several standardized mental-status interviews. This interview also can be completed in about five minutes. Major attention in this study was directed to the development of a test battery of mental impairment. This involved drawing from many other available tests.

There followed a prolonged series of tests of appropriate volunteers designed to establish validity of the three-component test procedures and to improve these through indicated modifications. The 70 persons included in this study were selected from nursing home residents; most were between 70 and 80 years of age. Detailed criteria for the selection of them were specified. The test required multiple interviews involving from 4-5 hours total contact time with each individual.

Detailed analysis of test findings followed. A final test procedure was evolved which required somewhat over an hour for completion. This is believed ready for wider use in a process of standardization and evaluation. Despite the progress in this year of study, it is recognized that continuing investigation is indicated.

REFERENCES

1 Dixon, J. C. 1965. Cognitive structure in senile conditions with some suggestions for developing a brief screening test of mental status. Journal of Gerontology 20:41-49.

CHAPTER 9

Development of Health Programs for the Aged

Public health has long been concerned with the time lag between results of research and its application to program development in the community. This study of the health problems and needs of the aging was designed to extend beyond the assembling, analysis and interpretation of data. It was to include the evolution of programs for meeting needs, seek the acceptance and application of these and evaluate the effectiveness of planned activities. While the research team could identify needs, design programs, and prepare to evaluate them, obtaining the acceptance and application of proposed plans was only partially within their control. There were major problems in this area.

Symposia Series

Utilizing research findings as a guide for meeting community needs required that findings be made known to agency representatives and community leaders who would share in evolving and implementing plans. The technique decided upon was a series of symposia. The essential element was the process of allowing those with a specific or related interest in the chronically ill and aged to share information and seek alternate methods of solving multiple community health problems. Although specific recommendations for community action were made, in reality the strength of the meetings was the opening of channels of communication for further cooperation.

The Community Advisory Committee of the Research Division was given the responsibility for planning. Physicians, health educators, social scientists, and nurses from the health department served as staff members.

The data from the Household Survey of the Aged was used as basic material for presentation at the symposia. Additional information was contributed from other studies conducted by the research division and by physicians and representatives of local voluntary and official agencies and speakers from the state and national levels.

The first symposium was on homemaker services. The next six concerned particular diseases and conditions, the eighth was devoted to prevention, detection, and control of chronic illness, and the last was on coordination of community health services and facilities. Each symposium was sponsored by one or more organizations especially interested in the subject. For example, the Community Welfare Council sponsored the meeting on homemaker services; the Arthritis and Rheumatism Foundation and the Society for Crippled Children and Adults sponsored the meeting on arthritic and orthopedic conditions; the county dental society sponsored the one on dental problems; and the county nutrition committee and the dietetic association sponsored the meeting on diabetes, obesity, and dietary problems. The entire series was endorsed by the Pinellas County Medical Society.

Attendance was by invitation and limited to approximately 80 actively interested persons, leaders of health organizations, professional societies, hospital advisory boards, and other groups. A special effort was made to enlist representatives of organizations of retired people.

The meetings began with a presentation to all participants of relevant medical and social research data for the county by health department staff. National and state officials described studies and programs elsewhere. Local private physicians and dentists explained the effects of particular diseases on the aged. Representatives of local voluntary and official health agencies outlined existing programs. The participants were divided then into small groups and considered the research findings and suggested programs in the light of local resources. To encourage discussion and debate, group leaders were chosen for their skill in group work rather than for their knowledge of the subject. Each symposium ended with the presentation of recommendations by the discussion groups and an exchange of opinions in open session.

The major recommendations concerned establishment of (a) a county-wide health council to assist in coordinating existing health and welfare services and to explore further the need for new services, (b) a homemaker service, (c) an information and referral center for persons seeking health services, and (d) a hospital-to-home care referral program. The need for education in achieving wider understanding of chronic diseases by patients, the public, and professional workers was stressed repeatedly.

The symposia began in September, 1962, and were completed in January, 1963. The recommendations from each of them follow. This list was used during the final meeting as a basis for considering and assigning priorities, planning for development, and proposing methods of financing and initiation. A description of subsequent actions in the health department and the community is the subject of later sections of this chapter.

Recommendations of Small Groups During Symposia on Community Health Services for the Chronically Ill and Aged

September 10, 1962 through January 23, 1963

1. *Symposium on Homemaker Services*

   Recommendation:

   1. Development of county-wide homemaker service.

2. *Symposium on Cardiovascular Disease, Including Stroke and Respiratory Disease*

   Recommendations:

   1. A program for stroke patients should be considered including:
      - a. professional education
      - b. family education
      - c. health personnel training courses
      - d. physical rehabilitation services
      - e. psychological services.
   2. Existing community resources should be coordinated.
   3. The public should be enlightened as to need for employing a family physician and the way in which a suitable doctor may be obtained.
   4. A screening clinic for emphysema should be organized.
   5. A community education program on chest diseases should be initiated.
   6. A program of home medical and rehabilitation care should be considered.
   7. A dietary counseling service is needed.
   8. Heart disease screening programs should be organized.
   9. Screening efforts should be initiated to detect congenital heart disease at an early age.

3. *Symposium on Arthritis, Rheumatism, and Orthopedic Conditions*

   Recommendations:

   1. A committee should be appointed to investigate present health education programs (school and community).
   2. A coordinated home care program to include both treatment and homemaker services should be considered.
   3. School health education courses should be taught by nurses or health educators rather than by physical education specialists.
   4. A loan closet for wheel-chairs.
   5. Provision of the following:
      - a) clinical training facilities
      - b) a podiatry clinic
      - c) an arthritis and rheumatism clinic
      - d) rehabilitation centers

4. *Symposium on Vision, Hearing, and Speech*

   Recommendations:

   1. School screening programs should be expanded.
   2. Hearing aid sales persons should be controlled.
   3. Treatment facilities and educational efforts relating to hearing should be expanded.

4. A sustained glaucoma clinic should be established.
5. Greater coordination of community efforts should be accomplished.
6. Additional professional personnel are needed.
7. A rehabilitation team following through from hospital to home treatment is needed.
8. Interpreters for deaf persons are needed in churches.
9. A central diagnostic clinic for communication disorders should be established.
10. A county-wide survey of health needs of all ages should be performed.
11. A central information bureau should be initiated.
12. Greater cooperation between ophthalmologists and optometrists should be achieved.
13. Communications between agencies should be improved.
14. Additional screening facilities for blindness caused by disease of one or the other eye in children should be established.

5. *Symposium on Mental Health in the Community*

   Recommendations:

   1. A central information and referral bureau should be established.
   2. Avoidance of isolation for minor mental health problems by providing day hospitals, night hospital, and short stay hospital facilities.
   3. Community facilities providing for interaction among older persons such as social clubs, recreation volunteer groups, and crafts.
   4. Expansion of community mental health services:
      a) child and adult clinics
      b) emergency services
      c) furloughed patient services
      d) half-way house
      e) hospital psychiatric beds.

6. *Symposium on Dental Problems*

   Recommendations:

   1. The Pinellas County Dental Society should initiate a study of the extent of need for a hospital dental operating room and, if sufficient need is discovered, should undertake the establishment of this facility. This might be established at Mound Park Hospital or could be included in a mobile unit. A dental internship program might be associated with this. Perhaps some of the equipment could be obtained from Bay Pines VA Hospital.
   2. The community should work to have a water fluoridation bill passed.
   3. Greater efforts in health education should be made, particularly for adults.
   4. Some facility for indigent care should be provided.
   5. The dental auxiliary could take the lead in involving the whole community in obtaining a dental operating room.
   6. A review of the present programs in dental education, public, school, and professional, should be made.
   7. The Dental Society should confer with representatives of the Board of Education to review and revise the present school dental health education program.

7. *Symposium on Diabetes, Obesity and Dietary Problems*

Recommendations:

1. Screening for diabetes should be promoted during Diabetes Detection Week.
2. Better cooperation between agencies and the lay diabetes society should be established.
3. A diabetes testing program for persons over age 40 should be initiated with all agencies cooperating.
4. Educational programs on diabetes should be established.
5. A medical forum on diabetes should be held.
6. Parents of junior high school students who weighed over nine pounds at birth should be screened for diabetes.
7. Screening techniques for diabetes should be studied.
8. Family history of diabetes should be included in school health records.
9. School health records should be transferred from one state to another when students move.
10. Schools should include nutrition education for boys as well as girls.
11. Teachers should have more training in nutrition.
12. A nutritionist should be employed in the County Health Department.
13. Diabetes screening activities should be increased.
14. A study of the causes of poor nutrition should be conducted.

8. *Symposium on Chronic Illness: Prevention, Detection, Control*

Recommendations:

1. Establish an information and referral bureau.
2. Establish coordination of health services for continuity of care from hospital to home.
3. Develop a county-wide directory of services.
4. Increase facilities for mental health.
5. Place greater emphasis on development of a homemaker service.
6. Establish a loan closet for wheel chairs, hospital beds, crutches, etc.
7. Establish county-wide coordination of facilities.
8. Expand home care services to include rehabilitation, homemaker services, and friendly visitors, as well as nursing care.
9. Establish a broad health education program with efforts to reach all age and social groups in the county.
10. Employ a nutritionist in the county health department.
11. Establish a coordinated home care program for the chronically ill.
12. Promote continued scientific research in public health.

9. *Symposium on Coordination of Community Health Services and Facilities*

Recommendations:

1. Agencies should strive for a continuing close working relationship with the medical and dental societies.
2. Social planning should be accomplished on a county-wide basis.
3. The Community Welfare Council and the Pinellas County

Health Department should initiate jointly a county-wide information and referral service.

4. The Community Welfare Council should initiate a homemaker service.
5. A new agency, the Pinellas County Health and Welfare Council, should be established under health department leadership.
6. The Community Welfare Council should be expanded in order to act as a county-wide coordinating agency.
7. The 30-minute public service time on WSUN-TV should be utilized for public health education.
8. The Community Welfare Council should increase its activities in the health field.
9. A stronger health education program should be established.
10. A hospital referral and placement program should be started.
11. The Health Department should employ a nutritionist.
12. Greater use should be made of the Community Welfare Council's directory of services.
13. A broad educational program in chronic diseases should be organized under the direction of the Community Welfare Council.

Homemaker Services

In line with the recommendations of the symposia, the Community Welfare Council accepted the responsibility to guide the initiation of the homemaker program. After studying recommendations and supporting data, the Council decided that the Visiting Nurse Association of St. Petersburg would be the appropriate agency to undertake this service. The Board of that association accepted the responsibility and appointed a homemaker advisory committee to solve problems of initiation, financing, and the establishment of policies. A professional committee also was established to provide specific recommendations regarding eligibility, fees, referral policies, and the recruitment, training, and duties of the homemakers.

Financing was a problem. Relatively small donations by two voluntary agencies and a modest advance from the Visiting Nurse Association were the only cash funds available for initiation. The Community United Fund promised limited support for the first year. The Juvenile Welfare Board agreed to purchase services in advance on a monthly basis for the first few months. The nurse-director's salary was assured by the health department. In view of budgetary limitations it has been necessary to hold to a minimum free service not underwritten by third-party payment.

Nevertheless, experience for the first year has been very gratifying. The original roster of ten homemakers has been doubled and training of another group is planned. Homemakers work on the average 28 hours a week. By choice some work only part-time while others work more than 40 hours. The active caseload per month averages 31, and has required 410 visits and 2,000 hours of service. A proposal has been made to the Office of Economic Opportunity for the purposes of providing needed employment and extending more service to poverty-class families.

It was thus apparent that the need for a health service might be demonstrated and acknowledged by leaders of community agencies, but this does not assure prompt action. The problem in this instance was one of obtaining firm commitment and budgetary support for the establishment of a new health-related program. Once the program was started, the increasing demands for service led to rapid expansion.

This experience does not provide a basis for generalization for Pinellas County, for Florida, or for communities elsewhere; however, it emphasized that the greatest problem was stimulating community agencies to effective action.

Community Services Referral Program

This is the description of a well-planned program that failed to attain its objectives. Data showed that about 14,000 persons aged 65 and over are discharged yearly from the county's eight general hospitals. Occupancy was high, reaching 92 percent in the largest hospital; during the winter season there was severe overcrowding in all hospitals. The average hospital stay was above the national average and was particularly high for those cared for at public expense. Moderate reduction of hospital stay of welfare patients would result in considerable saving of public funds. However, with such a high percentage of one and two person households among the aged, there were obstacles to discharging older patients to their home. The hospitals had neither trained social workers nor an organized referral system to aid in planning for early discharge. The advantages of treating patients according to the principle of progressive medical care were recognized by hospital administrators, county welfare authorities, the health department, and most physicians.

The community services referral program was designed to meet a demonstrated need and envisioned the development of a coordinating and referral team in a city hospital. The service would be under the guidance of a public health physician and the staff would include a public health nurse, medical social worker, and clerical assistance. It was anticipated that overall costs of medical care would be reduced, available facilities would be used more effectively, and patient care would be improved. The objectives were to:

1. Assist in classification and placement of hospital patients ready for discharge by means of (a) conferring with the attending physician regarding his medical evaluation and needs for further care, (b) social investigation of the home to determine its suitability and adequacy, (c) use of proper referral forms, and (d) other means.
2. Assist in coordinating the services of medical facilities, nursing homes, homes for the aged, foster homes, boarding homes, home nursing and other home health and home help programs.
3. Encourage further development and more extensive use of services facilitating the placement of discharged patients in their own homes.
4. Facilitate and improve the follow-up and care of discharged patients by the outpatient department and other special clinics.
5. Improve cooperation and communication among hospitals and hospital staffs, nursing homes, private physicians, the county health department, and other health-care agencies.
6. Use the experience and knowledge gained from this program to extend and adapt similar services to other hospitals as resources permit.

The program was to be sponsored by the county health department and co-sponsored by the city hospital and county welfare department. They were to share jointly in the costs.

An objective evaluation of this proposed program was planned. By random selection experimental and control groups of patients age 65 and over would be chosen. Follow-up observations would be limited to those who on discharge had a medical or surgical condition requiring further medical, nursing, and supportive care. The experimental and control groups would be matched as nearly as possible by sex, age, socioeconomic, and medical indigency status. For those in the experimental group, members of the coordinating and referral team would confer and plan appropriately with the attending physicians and patients before discharge. In the control group, patients would be handled according to usual practice and data would be drawn from hospital records. After an interval both groups would be followed by home visits to evaluate the completeness with which hospital discharge orders were followed. Comparisons would be made of the two groups. Shorter hospital stays, higher incidence of referrals from hospitals to nursing homes, and increased use of ancillary services such as nursing, homemaker services, and rehabilitation on the part of the experimental group as compared with the controls would be used as measures of the degree of success of the program.

Plans were evolved assuming that the program would be endorsed by the hospital medical staff. Two public health nurses were selected for the program, oriented in community facilities and services, and introduced to hospital routines and staff. A social worker was not immediately available. Discussion with hospital and welfare staff personnel and with individual physicians indicated readiness and even eagerness for the program to be initiated; however, when the plan was offered to the executive medical staff of the hospital, it was not approved. The stated and apparent reasons for rejection were:

1. "Not needed. I already provide these services to my patients."
2. Objection to the use of federal funds for the operation of local program.
3. Misgivings about nonhospital personnel having access to hospital charts and records.
4. Inherent distrust of what was judged to be third-party involvement.
5. Lack of understanding and acceptance of evaluation procedures.

Thus, the evaluation of this proposed program became one of assessing the factors which adversely influenced its acceptance and a consideration of alternative steps which might have led to a favorable decision. The medical profession of the community was admittedly conservative and particularly so regarding social and health programs receiving federal support. Better means of attaining cooperative action obviously were and are needed. The crucial problem was obtaining acceptance of a community health program by those who feel deeply that all medical and health problems can be satisfactorily solved through traditional physician-patient relationships.

There is, however, an encouraging sequel. About 18 months later assistance in the placement of patients and for referral to other community services was offered to the administration of another hospital upon request. This limited program has not been formalized and no attempt at evaluation is currently being undertaken. Nevertheless, it has been accepted to some extent as evidenced by increasing requests for assistance. For the past several months this service has been used also by the city hospital to which the original plan was presented.

In support of this program as presently constituted, it apparently poses no threat to currently accepted hospital and medical staff procedures. Anything that it accomplishes is progress; however, to be effective in the community, a more structured and formalized approach with wide acceptance is necessary.

Screening for the Detection of Chronic Diseases

The emergence of chronic diseases as a most important problem of medical care has been well documented. There is increasing concern with ecology, etiology, prevention, detection, and treatment. Complex causes are not clearly understood and treatment is not always effective. Nevertheless, there are several of the chronic diseases which can be approached through public health action in the areas of primary prevention, detection, and secondary prevention. However, interest and knowledge on the part of the public and medical profession of the potentialities of screening are not as great as desirable. This situation poses a challenge for public health persons and behavioral scientists to seek out and determine the factors which influence favorably or unfavorably the motivation of involved groups.

The symposia series resulted in an imposing list of recommendations for screening programs and education related to chronic conditions such as glaucoma, diabetes, emphysema, heart disease, and dental disorders. Often overlooked is the fact that the educational component of community-wide detection programs may be more important than the number of new cases discovered. An effective program should embody the following characteristics: methods of primary prevention, techniques for early detection, and therapeutic measures for the control or cure of the disease. Although primary prevention is most desirable, early detection and effective control including rehabilitation provide satisfactory elements for a sound public health program. Some of the experiences, including failures and successes, in the initiation of such programs are included in this section.

Glaucoma Screening

The household survey of the aged showed that almost one out of ten persons 65 years of age and over in the county had serious difficulty with their vision. Over two percent had been told they had glaucoma with or without some other condition such as cataract. The prevalence increased markedly with age. It seemed reasonable to assume that there were many other aged persons with undiagnosed glaucoma or abnormally high intraocular tension. A Glaucoma Screening Week was planned with ophthalmologists of the county medical society and the state voluntary society for the prevention of blindness.

The educational objectives of the program were to:

1. Inform the public regarding the nature, detection, and control of glaucoma.
2. Involve community health and welfare organizations and individual volunteers in planning and execution of the program.
3. Bring to the attention of physicians other than ophthalmologists the desirability of including tests of intraocular tension in periodic physical examinations of patients over 40.

and the public health and medical objectives were to:

1. Detect cases of abnormal intraocular tension in the screened population.
2. Refer individuals with abnormal intraocular tensions for definitive diagnosis.
3. Test the effectiveness of follow-up by public health methods in inducing individuals with abnormal intraocular tension to obtain diagnosis.
4. Determine whether the age-specific prevalence of abnormal intraocular tension in the screened population accords with prevalence rates found in other screened populations.
5. Determine whether there is need for a continuing glaucoma screening program.

The methods for achieving the educational objectives included publicity through press, radio, and television. Announcements were placed in voluntary agency newsletters. Leaflets were distributed to residents of trailer parks and to members of senior citizen clubs. Individuals were directed to telephone for an examination appointment. Calls still were being received when the maximum number of appointments of 450 per night had been made. Obviously, a considerable segment of the public had become aware of the testing program and further testing could have been done.

Public health nurses and members of the district nurses association were tested by questionnaire for their knowledge of glaucoma after they had an opportunity to study pamphlets and other publications on screening procedures. The principal objective of this test was to identify gaps in knowledge that would adversely affect their performance in the clinic situation where they would be required to meet the public, explain procedures, and answer general questions related to diagnosis and treatment of this condition. There were some deficiencies in knowledge. For obvious reasons public health nurses scored somewhat better than members of the district nurses' association. Nevertheless, further in-service education about glaucoma was undertaken. Emphasis was placed on the method of testing (Schiotz tonometer), the chronicity of the disease, the principle of and need for continued treatment, and the fact that further visual loss could be prevented in a high proportion of those with positive diagnosis.

Efforts were made to bring to the attention of physicians other than ophthalmologists the desirability of including tests of intraocular tension in periodic physical examinations of patients over age 40. Although an invitation was extended to them to attend, observe, and perform the testing procedures under supervision of an ophthalmologist, participation was minimal. Prior to the screening week in 1962 an 80 percent response to a questionnaire mailed to physicians indicated that about 10 percent of them had tonometers and the median use was five times each month. One year later a similar mail survey of the same group with a 79 percent response showed that 13.5 percent owned tonometers and that the median use was four times per month. Other factors beside the glaucoma screening clinic may have been responsible for this small favorable change. While more professional education seems desirable, local ophthalmologists were reserved concerning efforts to induce general practitioners to perform tonometry.

Involvement of the community agencies was accomplished by appointing representatives to a rather large steering committee. Individual volunteers included ophthalmologists, registered and practical nurses, health department personnel and many others. Cooperation among the agencies was excellent; individuals worked hard for long hours. The appointment of an overall chairman would have improved coordination.

Of the 1,999 persons screened for elevated tension, 128 had abnormal readings. The ophthalmologist committee had decided to use the Schiotz tonometer with the 7.5 gm. weight. Scale readings of five or less were considered abnormal and the scale was translated into millimeters of mercury (five equals 25.1). Those with readings of 30.0 or above were considered emergency cases and were given appointments promptly by private ophthalmologists. In spite of efforts to discourage patients with previously diagnosed glaucoma from being tested, six of the abnormally high tensions were in this category.

The age-specific rates for elevated intraocular tension of persons screened was computed and compared to the rates per 100 persons screened and reported for Polk County, Florida, Glaucoma Screening Program, April, 1962 - April, 1963.

	Pinellas County Survey			Polk County Survey		
	Total	Pct.	Rate/100	Total	Pct.	Rate/100
All ages	1,999	100.0	6.4	12,290	100.0	2.3
Under 50	225	11.3	4.0	6,398	52.1	1.2
50 - 59	273	13.7	7.0	2,283	18.6	2.8
60 - 69	790	39.5	5.1	1,999	16.3	3.1
70 and over	711	35.5	7.0	1,610	13.0	5.2

The rate for all ages was almost three times as high in Pinellas County (6.4 to 2.3). It was also higher for all age-specific groups and most marked for 50-59 years of age. Females had a higher rate than males in both counties, 7.1 to 5.0 in Pinellas, and 2.4 to 2.2 in Polk, respectively.

The testing of the effectiveness of follow-up by public health methods to encourage individuals to obtain definitive diagnosis was accomplished in the following manner. During the screening program public health nurses in attendance urged all individuals having intraocular tension of 25.1 to 29.9 to obtain treatment by an ophthalmologist as soon as possible. In all, there were 128 cases of elevated tension, 46 in the emergency group. The remaining 72 persons were placed in control and experimental groups by a random method, with 36 in each group. The subjects in the control and experimental groups were reasonably well matched in respect to age, sex, marital status, and welfare status. Public health nurses made contacts (home visits and telephone calls) with individuals in the experimental group in order to determine if they had visited an ophthalmologist. This follow-up continued until a definitive diagnosis was made. Those in the control group were not followed but at the end of six months they were contacted to determine whether they had visited a physician and, if so, to learn the result of the examination. It was found that all individuals in both the experimental and control groups had visited ophthalmologists for diagnosis. The results derived from this rather small experiment suggest that intensive follow-up in the case of glaucoma, while effective, may be unnecessary. Serious conditions affecting the eyes may motivate individuals to seek medical care because of the perceived gravity of the threat to vision. It is planned to add additional cases to this experiment with future screening clinics and to follow them beyond definitive diagnosis and include treatment for a specified period.

The need to continue glaucoma screening activities was indicated by the following evidence:

1. The response of the public to limited publicity advising of the availability of the test demonstrated interest and the acceptability of the procedure.
2. Ophthalmologists and voluntary health agencies expressed the desire to continue cooperative efforts.
3. In the household survey 2.1 percent of the respondents (aged 65 and over) reported a diagnosis of glaucoma, and it is well established that known cases are only a portion of the total who may have this condition.
4. Approximately 6.5 percent of the persons aged 40 and over who were tested had tensions in the elevated range.
5. Half of the population of Pinellas County is age 45 and over, and the prevalence of this disease increases sharply with age.

While there was ready cooperation in planning and conducting a demonstration and study program, staffing, supervision and acceptance of professional liability have been obstacles to providing a sustained glaucoma screening clinic. The results of efforts begun a few months following the screening week were not encouraging but activity is being continued. Tentative plans for two county clinics have been discussed with members of the county medical society. The concentration of older persons imposes a disproportionately heavy load on ophthalmologists and participation in screening clinics is difficult for them. Referrals from an active glaucoma screening program would increase the number of patients; however, the importance of detection and its potential for the prevention of blindness dictates that practical alternatives be found. Young persons such as nurses with medical knowledge, good vision, and well-coordinated muscular control, could become proficient and skillful in tonometry and under supervision could perform the test in established clinics. As a partial solution to the increased office practice that time-consuming glaucoma cases would add, the use of paramedical personnel trained in refraction is suggested.

Diabetes Screening

The population of Pinellas County had a median age of

44.9 years in 1960. The household survey of the aged revealed a prevalence of 44.5 known cases of diabetes per 1,000 noninstitutionalized individuals 65 years of age and over. The estimated number in the county with undiagnosed diabetes was 6,000 people. Acceptable screening procedures were available and methods of control were known; these are the principal criteria necessary for effective public health programs of this type. Such a diabetes control program was recommended strongly by the groups that considered diabetes in the symposia series.

On the basis of this information a local diabetes detection program was planned to coincide with the National Diabetes Detection Week. It was sponsored by the health department, the county medical society, and the lay group of the state diabetes association. Health department staff assisted in the organization of a steering committee and a medical advisory committee, in planning education and training for nurses and volunteers, and publicity. Eight detection centers in strategic locations throughout the county were selected. Financing of the program was shared with the diabetes association. The medical advisory committee, composed of medical society members, developed standards and approved procedures for testing and reporting of suspected diabetes. An important decision of this group was the adoption of the Dextrostix method as the screening procedure. Comparative tests by two county pathologists had proved it to be reliable.

The objectives of the diabetes detection program were to:

1. Urge by various methods of publicity and education the following types of diabetes-susceptible individuals to be tested by their private physician or at one of the testing stations:
   a. Persons over 40 years of age
   b. Blood-relatives of diabetics regardless of age
   c. Individuals 15 to 20 percent or more overweight
   d. Parents of babies weighing 10 pounds or more.
2. Screen 5,000 or more persons in the above high risk categories by the use of a simple blood glucose estimation (Dextrostix).
3. Refer for diagnosis, and treatment if necessary, all individuals with a blood glucose concentration of 150 mgs. per 100 ml. or higher as determined by the Dextrostix method.
4. Conduct the detection program in a manner that would encourage and warrant the continued confidence and cooperation of private physicians and the support of the general public so that the eventual establishment

of a sustained diabetes program in the county would be acceptable.

The most pressing problem of the detection week was meeting the demand of those requesting the test procedure. A total of 8,273 tests was completed by the Dextrostix method using capillary blood from the fingertip and 253 unknown suspects (those with a blood glucose level of 150 mg/ml and over) were identified. Thus, the rate per thousand for those in the suspect group was 30.6 compared to an expected rate of 25.6[1] for those with diabetes in a population over 45 years. Also a significant number of individuals had an apparent hypoglycemia (blood glucose level below 65 mg/ml), 386 persons, giving a rate of 46.7 per thousand. Further probing of this finding has been suggested.

Information based on interviews with 88 tested persons showed that a majority had some knowledge of the type of individual most likely to have diabetes. One third had a blood relative who was diabetic. Seven out of ten knew one or more symptoms of the disease and almost a third thought they had at least one symptom. Almost half indicated that the newspaper was their source of information, followed by friends, television, and radio. A majority realized that the amount of food eaten (71.6%) and the interval between eating and testing (84.0%) were important factors. Two fifths of those tested came 1-2 hours after eating, the correct time interval; three fifths came later than recommended. Food intake apparently varied more than desirable. It was believed that the somewhat irregular following of instructions might have been improved by more specific educational material directed toward target groups.

The second objective was more than fulfilled. Almost two thirds more were tested than originally planned (8,273 vs 5,000).

The physicians of the county through the Medical Advisory Committee had agreed prior to the testing week to accept all referrals from the program. Referral was accomplished by a simple card with the results of the test noted and the individual was instructed to consult his own physician for diagnosis.

The establishment of diabetes screening clinics on a continuing basis in at least two convenient locations, using the experience and confidence gained during the testing week, is being considered. There have been no overt objections to this plan; physicians have accepted referrals willingly and hospitals have expressed their interest in such a project.

The acceptability and reliability of a screening test for diabetes was demonstrated. A continuing educational and case finding clinic procedure has been proposed. The need in a community of older persons has been made evident. Health department plans are slowly evolving.

Nursing Home Educational Program

Throughout the recommendations from the symposia series, the need for education was consistently stressed. Also the study of nursing home records and patient medical care (Chapter 8) emphasized the need for specific educational programs. Recognition of this need was not unique to the Pinellas County Health Department. This state-wide situation was a growing concern of the Florida State Board of Health, nursing home associations, district nurse associations, and individual administrators and owners. The research division through a subcommittee of the Community Advisory Committee decided to encourage and initiate educational programs for nursing home personnel in Pinellas County. Meetings with administrators of nursing homes revealed that they were not ready for a broad-scale cooperative educational program but preferred to make individual efforts toward improving their own inservice activities. Nevertheless, a state nurse consultant in rehabilitation, and educational meetings sponsored by the district nurse association have been well accepted. A direct result of the interest and leadership of the Community Advisory Committee was a nurse-aide course conducted by the Adult Education Division of the county school system. This was initiated in June, 1963. Thirteen groups with a total of 190 have enrolled and 168 have completed the course since that date.

Nursing home administrators have expressed satisfaction with the training, but hospitals using these aides indicated they needed further training for certain other specific duties not included in the curriculum. Although the nurse-aide training program grew out of research division activities, the final development and conduct of the program was by an agency other than the health department. The health department has a definite role to play as initiator of appropriate activities and, insofar as possible, should assume responsibility for coordination and evaluation.

Summary

The use of a symposia series on chronic diseases as a technique for bringing research findings to the community was attempted. Many specific and several general recommendations for action by the community were made. Certain programs have been the direct result of these presentations and have been described in some detail. In some instances they have been quite successful and in others have fallen considerably short of proposed and planned objectives. It is clearly evident that all phases of community programs require careful planning if they are to be successfully initiated and conducted. Their acceptance in a conservative community may hinge on the proper presentation of ideas and plans to civic and professional leaders.

Of the several screening programs for detection of chronic disease that were suggested, two have had a pilot run. They were both eminently successful. Yet the establishment of regular and sustained clinics for the discovery of these two important chronic conditions has not been achieved. To some extent at least, realization of this objective was prevented by minor misunderstandings between public health persons and medical practitioners. Eventual action on other recommendations for screening programs may be contingent on the outcome of those presently being considered.

REFERENCE

1. U. S. National Health Survey. 1960. Diabetes reported in interviews, U. S., July 1957-June 1959. Public Health Service publication no. 584-B21. U. S. Public Health Service, Division of Public Health Methods, Washington.

CHAPTER 10

Research in a Local Health Department

The funding of the present project in 1958 led to the establishment in the Pinellas County Health Department of a Research Division which has been operating for nearly seven years. The staff was augmented when additional studies were undertaken. The purposes of this chapter are (1) to describe the development and effects of a research program in a local health department, and (2) to evaluate the experience for the consideration and possible guidance of administrators in public health.

The desirability of carrying on research in public health has been strongly urged by many leaders in the field. In an article in the *Journal of the American Medical Association* Dr. Albert V. Hardy[1] stated:

> "It is perhaps unnecessary to reiterate a well-established axiom of medicine (the science on which so many of the principles of public health practice are based) that research is essential to the establishment and maintenance of the highest standards of performance in all its assigned tasks. Few would quarrel with the view that the spirit of careful and critical search for new information must be an integral and continuing element in health department practice. We wonder, however, whether the risks involved in the absence of a research component in public health activity are as well recognized. These have been eloquently enumerated by Dr. Harry S. Mustard in the following words:
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> > 'In the absence of a spirit and practice of inquiry the health department is in danger on a number of counts. First, there is the danger, that hypotheses or assumptions of the past, recognized as such when they were accepted, may gradually take on the stature of fact or reality. A second danger, in the absence of research or study, is a tendency in health departments to become confused as to what constitutes ends and what constitutes means of attaining these ends. This results in a situation where existing methods or practices are glorified and stoutly–even violently and vehemently–defended. The original ends to be attained have been lost to sight. A third

hazard, where there is no inquiry and fresh knowledge, is that health departments, having established a given undertaking, may continue a full program of activities in this connection long after the particular problem has become relatively less important.' "

The question whether research in state and local health departments is appropriate can be approached in another manner. Business and industry have found research advantageous in adjusting to constantly changing conditions. Some has led to the discovery of new processes and the development of new products. "Operations research" is undertaken, however, to discover the most effective and efficient ways of performing a wide variety of tasks within business and industry. Public health, likewise, must function in a highly dynamic world: the relative importance of given diseases and groups of diseases as causes of morbidity and mortality changes; new technologies become available; and the social, cultural, and physical environments of communities undergo alteration, under modern conditions, with great speed. If this analogy with the situations confronting business and industry is valid, then public health must incorporate research into its activities if it is to cope successfully with the problems that are its responsibility.

For the present purpose the term research is employed as a general concept which includes various kinds of studies that may be carried on in health departments. More strictly, *research* is the application of the scientific method to solving a problem, testing a hypothesis, or discovering new phenomena and new relations among phenomena. *Demonstration* refers to the planned trial under controlled conditions of a new or different method of providing a service, with the purpose of adducing evidence through the actual operation of a service or program that the method constitutes a way of solving a problem or meeting a need suited to the particular community, or offers advantages over existing methods or programs. *Program evaluation* may be considered as a process involving application of research methods to determine the relative effectiveness of a given service in achieving the effects for which it was designed[2].

Despite efforts in recent years on the part of the Association of State and Territorial Health Officers, the American Public Health Association, the American College of Preventive Medicine, and the Association of Professors of Preventtive Medicine , research is found in relatively few local health departments at present.

Development of the Research Program

The Research Division of the Pinellas County Health Department was begun in the fall of 1958 with a staff of three persons, a physician, who served also as assistant director of the department, a health educator, and a secretary. During the first year of the health-of-the-aged project, a physician-epidemiologist was appointed on a part-time basis, and an economist and a sociologist from the University of Florida served regularly as consultants. When field work began in April, 1959, 15 interviewers were recruited and trained and additional clerical persons hired.

During the second project year, a full-time sociologist joined the staff. Upon completion of the household survey, the field-work staff was discontinued. In the third year the senior sociologist worked on a part-time basis while teaching in a nearby university, and a junior sociologist was appointed. During the fourth project year, the senior sociologist returned to the division full time, while the part-time physician-epidemiologist, who resigned for reasons of health, was replaced by an experienced public health physician working on a full-time basis.

The staff of the division was greatly augmented during 1962-63 by the addition of two new projects. The Division of Accident Prevention of the U. S. Public Health Service entered into an agreement with the state and local health departments under which three professional workers–a physician-physiologist, a physician, and a statistician–were placed under the administrative supervision of the Research Division for the purpose of conducting studies of accidents and aging. At the same time a Study of Extrahospital Nursing Needs, financed by a project grant from the Public Health Service, was started. Its staff consisted of a public health nurse with a master's degree, six public health nurses who served as interviewers, and clerical personnel. Each of these two projects had a term of two years. At the end of this project year, the senior sociologist resigned to return to university teaching and the junior sociologist was granted leave to complete his doctoral studies.

A third project was undertaken during 1963-64. It was a Study of Senility, conducted under contract with the Division of Chronic Diseases of the U. S. Public Health Service, and staffed by a senior psychologist, a junior psychologist, and a clerk-stenographer. The investigations of out-of-hospital nursing needs and of accidents and aging continued. In February, 1964, the public health physician was transferred to other duties in the department.

As of July 1, 1964, the staff concerned with accidents and aging was transferred by the Public Health Service from the Division of Chronic Diseases to the newly established National Institute of Child Health and Human Development, and it was no longer an integral part of the Research Division. With the approaching termination of the grants, the health educator and the nurse-project director accepted other responsibilities in the county. Thus a large and active research unit became a continuing division with one physician plus statistical and secretarial assistants.

During the course of the project a large number of consultants assisted on an occasional basis. These have included the Director of the Bureau of Research, Florida State Board of Health, an epidemiologist; a research economist from the University of Florida; a statistician from the Florida State University; a biostatistician from the Baltimore City Health Department; the professors of Public Health Administration from the University of Pittsburgh and the University of North Carolina; staff members from the Public Health Service; physicians and social scientists from other research programs in public health in Florida; and others.

During various phases of the project division directors and supervisors in the Pinellas County Health Department played an important part in a planning and advisory capacity. For a time this relationship of other personnel to the research program was formalized through a Public Health Advisory Committee.

The need for actively enlisting and maintaining the interest and support of the community was obvious at the end of the first year of operation. A Community Advisory Committee to the Research Division (as described in Chapter 1) was formed at that time.

Effects of the Research Program

Pinellas County with an exceptionally high proportion of retired persons in the later years was believed to have a concentration of health problems. Public health workers were directing increasing attention to chronic diseases and disabilities of older citizens. There was obvious need for more precise knowledge, particularly of conditions among the expanding population of transplanted retirees. St. Petersburg and nearby communities offered an inviting opportunity for such a study; however, the health department had not heretofore undertaken research. Moreover, neither within Pinellas County nor adjacent counties was there any university or other organization with an active research program. The nearest, the University of Florida, was 150 miles distant. The combined interest and need, together with the encouragement and assistance from the State Board of Health, led to the development of a research activity and unit within the county health department. Because of promising potentials and immediate and unforeseen problems, there was a continuing interest in evaluating the experience.

The following discussion attempts to identify and assess some of the more important effects and problems of the research program within and outside the health department.

Relationships with the Administration and Divisions of the Health Department

The health officer serving as director of the Pinellas County Health Department at the time the research program was initiated gave unqualified support to the undertaking. He authorized substantial budgetary assistance from county funds. His attitude of approval and assistance continued while the division became considerably larger, in terms of number of personnel, space requirements, and budgetary allocations, than was originally anticipated. Inevitably the program added burdensome and time-consuming responsibilities; however, it appeared essential that he be apprised of the more important aspects of the day-to-day events and problems being dealt with by the research group. As a means of maintaining communication, regularly weekly conferences were scheduled for a time and concise reports were prepared for him. As a result, the director became more knowledgeable about the research in a general rather than a specific way. He developed a more critical attitude toward existing and new programs than had been shown prior to establishment of the research program.

The reactions of the directors of the operating divisions of the health department to the establishment and activities of the research division varied decidedly, from eager acceptance and wholehearted encouragement to indifference. Since an implicit objective of the research division was to keep its program closely related to and integrated with those of other divisions, it is important to describe the relationships that developed.

The way divisions and division directors related to the research division involved top administrative policy, and also reflected the nature of the function, specific problems, and the supervisors' attitudes toward the operating programs of the individual divisions. The nursing division provided services to a segment of the population in which the research team had specific interest. For this reason, and because of working relationships which antedated the research program, rapport was quickly established. Through the in-service educational program, research personnel had an opportunity to bring new concepts and information to nursing personnel which resulted in this staff turning to the research division for advice and consultation. In addition, the nurses found it easy to relate to the research group, which was interested in their service to older people. A significant outcome was the Study of Extrahospital Nursing Needs already mentioned. The study, to measure the kind and amount of needs in Pinellas County, was planned at the request of the nursing division, which took an important part in shaping the study design. The nursing division cooperated in making arrangements for and conducting a week's screening of middle-aged and older people for glaucoma, and subsequently performed the field work for an experimental study of the effectiveness of public-health nurse follow-up of persons with abnormally high intraocular pressure. Nursing personnel gathered the data used by the research division in a study to determine the extent of need for homemaker services in the county.

The division of health education, whose director served jointly as a staff member of the research division, obtained increased support and stimulus through research; in return, it provided essential knowledge of community organization and assistance in communication necessary for application of the research findings. As a result of involvement in the planning and conduct of field studies, the division made considerably greater use of research techniques in carrying out its mission.

The division of communicable disease was chiefly concerned during several of the project years with recurrent epidemics of encephalitis. At the request of its director, methodological and social science consultation was provided in connection with serum surveys and the analysis of findings from an ecological standpoint, and the research division made available a subsample of the household survey sample for use in a field study. Conferences were held by personnel of the two divisions to consider findings suggestive of the existence of a reservoir of active tuberculosis in the older population of the county. Data on immunization levels in children from the survey of extrahospital nursing needs were utilized by the communicable disease division in making decisions as to further efforts to reach unprotected children.

A fundamental concern with the data available from the vital statistics office of the health department was natural to a research group. With the addition of data-processing equipment for use in research, it became possible to store and analyze vital statistics information on a current and programmed basis. Reports for use in research and planning now can be prepared which are not published routinely by the state department of health. Ultimately, it is expected that the division of vital statistics will assume responsibility for this function.

The research division was not involved in studies related to environmental health which are of prime concern to the division of sanitation, a major activity of the health department. This situation may have reflected the lack of time to understand fully the functions and activities of this division and to recognize the potentialities for scientific study and program evaluation.

The added responsibilities assumed by administration on behalf of research were soon apparent to the business and personnel office. Accounting duties were complicated by the addition of special grant funds and the management of contract work. A good relationship with this office helped materially in the day-to-day functioning of the research group.

The formation of the Public Health Advisory Committee, composed of all division directors and certain other key persons, had three main purposes: to provide a forum in which to obtain advice about problems and operations of the research division, to introduce the concept of program evaluation on a rigorous, scientific basis, and to take the first steps in a department-wide evaluation of current programs. At the monthly meetings each division presented descriptions of some of its more important programs, using a protocol worked out by the research division, and the programs (their objectives, means of attainment, scope, limitation, future potential, and possible modifications) were discussed by the committee. The scheme fell short of attaining all its objectives. Interest on the part of some division directors waned gradually and they ceased to attend meetings, or to do so regularly. A positive and worthwhile outcome, however, was the accumulation of detailed descriptions of numerous programs and the stimulation of some of the participants to recognize and accept the need for a continuing critical review of operations. In addition the committee gave counsel on certain aspects of the research program, especially the preparation of designs for evaluative studies.

Addition of Personnel

A notable result of the research effort was the introduction to the health department of staff members with competencies not theretofore available. The major disciplinary areas were epidemiology, sociology, psychology, social work, and through all of these, research methodology. The presence of these persons tended to enrich the department by bringing unfamiliar funds of information, theoretical frames of reference, and invaluable insights. This resulted from the involvement of research personnel as consultants regarding problems of the several divisions, their taking part in orientation and in-service training programs, and participation in discussions at staff meetings. The sociologists introduced concepts of social science as part of an important current trend in public health; the social worker, assigned to the department by the U. S. Public Health Service as a staff member in an evaluation study, gave significant consultative assistance to the nursing division.

Program Development

The material on program development during the past five years has been detailed in Chapter 9. Five programs were instituted as a more-or-less direct result of efforts by the research division. The first of these, formation of the division of adult health and chronic illness, was proposed as a strategic way of focusing attention on the needs of the elderly that could be satisfied properly under the aegis of public health and of assigning to a director and his staff the specific responsibility for initiating new and modified programs.

Three programs arising from proposals of the research division were administered by this new division. The first in time, an educational program conducted in nursing homes and homes for the aged to increase the skills and improve the operations of the personnel, grew out of the implication of the report of the research division's survey of nursing homes in 1960. A public health nurse who joined the group responsible for inspection and licensure of the homes was assigned the educational work; the sanitarian and public health nurse who completed the team actively cooperated.

Another innovation, the provision of assistance in obtaining post-hospital care for patients, was started by a hospital-based team of public health nurses and a social worker who worked with the physicians and patients in establishing communication with such out-of-hospital resources as the Visiting Nurse Association and other home health services.

nursing homes, homes for the aged, voluntary health agencies, and public and private welfare agencies. A plan prepared by the research division served as the model although the program as initiated had to be modified.

Another new activity directly attributable to the efforts of the research division was provision of social work consultation within the health department. As indicated, appointment of a social worker had been sought for the community-resources referral team stationed in a local hospital. It became possible for him to give service not only in that program but in many others as well.

The last of the new activities grew out of the research division's attention to the need for homemaker service. This eventually was organized as a new program provided through the Visiting Nurse Association of Greater St. Petersburg, a voluntary agency administered by the department's director of nursing and housed in the city's health center. Over several years the research division's Community Advisory Committee studied needs and resources for this home help service. Homemaker service had been considered in the symposia on health needs of the elderly conducted by the research division, and the symposium group recommended that the Community Welfare Council, the local health-and-welfare planning organization, assume responsibility for initiating the program. Its efforts were successful the homemaker service began operation in 1964.

The activities of the research division contributed to the establishment of two other programs of significance. A public health nurse under the direction of the division of adult health and chronic disease was assigned the duty of providing follow-up service to cardiac patients seen in clinics of the county welfare department conducted in St. Petersburg's municipal hospital. This division inaugurated in 1964 a continuing household survey known as the Health Information Service. Utilizing subsamples drawn from the sample developed in the Study of Extrahospital Nursing Needs, the survey involves a set of interviews each month. Basic population and health questions are included in all monthly schedules, and these are supplemented by inquiries into specific health topics. The resulting statistics aid in detecting health problems as they occur and in long-term planning of the department.

Research

The existence of a research division with an active program led to further study projects. The principal ones were the Study of Extrahospital Nursing Needs, a two-year investigation; the study of accidents and aging, conducted for two years by U. S. Public Health Service personnel stationed in the research division; and the study of senility, a one-year project. The addition of these projects resulted in the appointment of personnel representing several fields, an increasingly stimulating intellectual atmosphere, and valuable exchange of data and ideas among the several studies.

The research division contributed in various ways to the epidemiologic study of encephalitis in Pinellas County, to investigations by the Human Development Study Center of the National Institute of Child Health and Human Development, to a study of Spanish American War veterans conducted by the Veterans Administration Regional Office, and to the studies of the Mound Park Hospital Foundation, engaged in medical research. The division cooperated in the establishment of the Tampa Bay Area Council for Research in Aging, a voluntary organization including persons engaged in research at the University of South Florida, Veterans Administration Center, Mound Park Hospital Foundation, Hillsborough County Health Department, and other organizations.

Extramural Relationships

The reaction of the community to the initiation and prosecution in the health department of research dealing with population groups was generally enthusiastic and supportive. Administrators and staff members of health and welfare agencies believed that the information being gathered would be of assistance to them. They expressed satisfaction with the leadership taken by the public health unit and welcomed the professional staff members brought into the community for the research project.

The amount and nature of relationships of the health department with other health and welfare agencies in the county changed during the seven-year period in the direction of more joint planning with the agencies and a friendlier, more cooperative, more productive type of interaction. Personnel of the research division took the lead in establishing and maintaining these relationships.

The Community Advisory Committee brought together individuals representing diverse interests. These included, for example, the president of the county's junior college, the rector of a downtown Episcopal church, the president of the

Mound Park Hospital Foundation, a leading pathologist, the directors of the county welfare department and of the district office of the Florida Department of Public Welfare, the director of the Juvenile Welfare Board, the older-worker specialist of the state employment office, a representative of the Community Welfare (Planning) Council, a lawyer who was president of the visiting nurse organization, a St. Petersburg-Tampa businesswoman long active in civic work, and an official of the American Red Cross chapter. Since the committee met monthly and its sub-committees more often, an opportunity extending over several years was provided for the members to become acquainted personally and professionally, to exchange information and ideas, and to build up trust and confidence in each other and in the organizations represented.

The series of symposia on health problems of the aged created a forum through which the research personnel of the health department made contact with an even broader spectrum of community agency representatives. All health and welfare organizations related more-or-less directly to the specific topics considered in successive symposia were invited to participate. A nationally prominent specialist in each problem area presented a summary of activities in the United States and elsewhere, and program directors from the Florida State Board of Health discussed their activities and the available state resources. The symposia thus constituted an invaluable means of communicating to the lay and professional leadership of the community major ideas, facts, and program activities in public health–in the county, the state, and the nation.

Another avenue toward improving relationships was exchange of information. Research data relating to specific mutual interests were given to and received from the Veterans Administration, the planning department of the City of St. Petersburg, and other groups. The research division likewise cooperated with the VNA, the state welfare department, and the association of nursing homes. Finally, research personnel addressed a large number of health, welfare, religious, and professional organizations.

The research program led to the establishment of new and useful contacts at the state and national levels. Project personnel served as consultants for investigations conducted by bureaus of the State Board of Health and by the county health departments. They were active in state and national research conferences, presented papers at scientific meetings, and became acquainted with specialists from other parts of the nation through visits of consultants.

Problems

The record of apparent effectiveness of the research program should not be interpreted as indicating unvarying success in achieving objectives or absence of problematic aspects. Serious problems were experienced and not all were solved during the course of the project term.

Establishing and maintaining a constructive relationship with the health department organization proved difficult. During the planning phase, it was believed that the director of the research division should be closely related to the director of the health department so that research could be in the mainstream of departmental affairs and the research director provided with the authority and responsibility required for accomplishment of his research duties. Accordingly, the director of the division was appointed assistant director of the department (the sole assistant director). This provided ready access to the administrator and policy-maker, who was unusual in the degree of his interest and willingness to provide freedom of action. Even so, problems were created for the director, the research unit, and to a lesser extent for other staff members. Some of these problems can be identified. First, the implications of the longer-than-average range of the objectives were not fully appreciated at the beginning. The fact that many months of diligent work by the research staff failed to produce tangible results, that is, results that could be put to more-or-less immediate practical use, had an eroding effect on the patience of administrative personnel. A series of productive intermediate goals would have prevented some frustrations.

Communication and understanding between administration and research–a two-way process–was a persistent problem. Public health administrators with an understanding of community-based research gained from training and experience were essential for the creation of a favorable research climate. By the same token, researchers must take into account the urgent need of administrators for answers to vexing and pressing questions that arose daily in the operations of a local health department.

Finally, there is a need for recognition of the different roles of the public health physician engaged in research administration and the public health physician engaged in the conduct of research. The demands of a sizeable research project preclude effective combination of these responsibilities. For the successful accomplishment of research projects of some magnitude in a local health department, separate public health physicians should perform each of the following roles: agency director with an understanding of research; research administrator with experience and training in community-based studies and public health administration; and research investigator with knowledge of research methodology adequate to permit independent work.

The problem may be illustrated by the response to endeavors to encourage the use of research techniques in program evaluation. The research division attempted to cultivate a mutually helpful relationship with other divisions. Attention was directed particularly to systematic reviews of existing programs with a view to evaluation of their effectiveness. This was begun in response to the interest of the health department director who supported it in memoranda and staff discussions. Attempts were made to present the concept of program evaluation in a positive way, as a reflection of the best thinking in the field of public health. Some division directors regarded these studies as an improper effort to appraise the quality of their programs, rather than as earnest and impersonal attempts to enhance the effectiveness of such programs in the context of changing conditions. It was difficult to keep the division heads informed about research developments and maintain their interest and involvement sufficiently so that the benefits of the research program would reach into many aspects of the department's work.

A factor probably related causally to this problem is the "action" orientation of most persons in local health departments. The research group was attempting to introduce a "study" orientation, that is, a set of behaviors involving the thoughtful gathering of data, formulation of objectives, discussions of ways and means, and careful balancing of results achieved under alternative methods of providing services. Inevitably, this process was slow and laborious, requiring numerous long meetings. Those division directors most accustomed to acting quickly in dealing with problems found it hardest to take part in the study process, which to them may well have seemed a waste of time.

Other problems clustered around the recruiting, training, and retaining of professional personnel. Because individuals in public health with both formal training and experience in research are scarce, the task of making staff appointments was time-consuming and difficult. Social scientists and psychologists without experience in public health were allowed preclude effective combination of these responsibilities. For the successful accomplishment of research projects of some magnitude in a local health department, separate public health physicians should perform each of the following roles: agency director with an understanding of research; research administrator with experience and training in community-based studies and public health administration; and research investigator with knowledge of research methodology adequate to permit independent work.

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The matter of salary levels continued to be troublesome throughout the project years. Rates allowed under the Florida Merit System for qualified research scientists were less than adequate on a competitive market, making it difficult to attract staff members and to retain them as they gained experience and maturity. The merit system occupational classifications defined workers for operating programs, and there was reluctance on the part of responsible policy-making officials to recognize that the market value of scarce research scientists was higher than that of operating personnel with somewhat similar educational and experiential background. The problem, however, was only one aspect of the more general problem of low salary levels for public officials in Florida as in many other states.

The difficulty of hiring and keeping research personnel was particularly trying in the case of those who had to be attracted from outside the field of public health, notably sociologists and psychologists. The principal competitors for their services were universities and colleges. Aside from the question of salary, those sought unsuccessfully and those who left the project after a period of work identified several factors which in their judgment made a local health department, such as that in Pinellas County, a relatively unattractive environment: the lack of colleagues in their own disciplines with whom to discuss interests; the absence of adequate library resources; the tendency to lose contact with their own disciplines without a base such as that provided by a university department; the difficulty of arranging desirable joint teaching appointments because the community did not have well-developed universities with graduate programs; and the necessity of accepting short-term appointments since the projects were supported by grant funds. Some of these features would not have existed in an older and better established locale, and even here the situation is improving in certain respects.

With one or two exceptions those in public health who were appointed to the project staff had not had prior training and experience in research. For this reason in-service education had to be relied upon; in addition, a seminar in the methods and techniques of community research was conducted over a period of several months by a sociologist for the benefit of personnel and that of a neighboring county in which an investigation was in progress.

The multi- or interdisciplinary method of conducting research presents important and trying obstacles; however, the enterprise may be approached, in general, in one of two ways: the research design may be devised by a group of scientists from various disciplines so that each phase or part may be performed by an individual or group of individuals within a traditional field, operating with relative autonomy; or the research design may be prepared and executed by a group representing several disciplines and working together as a unit. The second, or interdisciplinary, pattern was followed in the studies reported in this volume.

This approach required that persons from medicine, epidemiology, health education, sociology, psychology, statistics, and nursing work together over several years. In this setting a major barrier was communication. Those in each field had their specialized vocabularies, representing varied concepts, many quite unfamiliar to their colleagues. The same terms in some instances had differing shades of meaning in different fields. Several months were required to overcome the technical language problem sufficiently to permit facile cooperation. In some degree, however, communication remained a problem throughout the project term.

The choice of the interdisciplinary method led to the necessity of group decision-making regarding most aspects of the research. This took a great deal of time, requiring frequent long meetings; consensus on points at issue was achieved at a slow pace. In part this stemmed from the divergent backgrounds of the participants; each had a set of attitudes and values as well as a frame of reference for organizing observed phenomena. Further, the amount of information about research methods and techniques varied, necessitating considerable explanation and discussion.

Difficulty in communication and diversity of backgrounds magnified the problems of effective collaboration in report-writing.

The nature of the project, ultimately extending over seven years, meant that the research personnel had to work toward long-term goals. Maintaining interest at an adequate level over a period of this length was difficult. There was some tendency for boredom to develop, especially among those whose experience had been limited to operating programs with relatively short-range goals. Counteracting this tendency was the variety introduced by new projects (the nursing-needs study, the accidents-and-aging project, and the senility study) and the arrival of personnel from hitherto unrepresented fields.

Finally, the dependence of the project and the tenure of most of its staff on "soft money" had the disquieting effects that have been noted by other investigators. Some anxiety was occasioned by the knowledge that the projects would be concluded in a relatively short time and that continuation depended upon planning and receiving support for further studies. The effects on personnel understandably concerned with the development and stability of their own careers were of particular importance.

Summary

A concentration of retired persons in one county provided an inviting opportunity for the study of health problems of an aged transplanted population. A research activity was introduced and developed within the county health department and there were no obstacles to the conduct of the specific studies of the aged population. The experience indicated that supplementary benefits accrue to the health department which incorporates research but that the introduction and prosecution of research in this environment has attendant difficulties. A review of seven years' operation of a research program in the Pinellas County Health Department indicated that these side benefits were obtained:

1. The director of the health department became more aware of the role and potential of research in program development.
2. Directors of divisions within the health department tended to adopt a more questioning and critical attitude toward the effectiveness and efficiency of programs under their control.
3. Directors of divisions in some cases became interested in using research to get answers to questions having to do with their own program-development concerns.
4. The storage, processing, and reporting of vital-statistics data were improved.
5. Levels of knowledge among directors of divisions about specific programs in other divisions were raised, and communication among the divisions was increased.
6. Resources available to the various divisions were augmented by means of consultation with research-division

personnel from disciplines not previously represented in the health department.

7. Program development appeared to go forward more rapidly as a result of the stimulation of the research activities.
8. The existence of a research staff brought about additional research studies because of interests within the department and requests from outside the department.
9. The research program had a key part in extending and improving relations of the health department with other health-and-welfare agencies and organizations in the community and in creating relations with public health and professional agencies and organizations elsewhere in the state and nation.

Although these positive and constructive effects were observed, certain problems in conducting a research program in a local health department were noted:

1. Maintaining an understanding and mutually supportive relationship between the research staff and the administration of the county health department proved difficult.
2. Efforts to introduce research concepts into the various divisions of the health department as an aid in program development and evaluation were hindered by failure to create adequate interest on the part of some directors of divisions.
3. Trained and experienced research personnel were difficult to recruit and keep because of their scarcity in public health, a noncompetitive salary scale, and certain conditions in the local health department regarded by professionals as less attractive than those prevailing in universities and colleges.
4. The process of conducting research in an interdisciplinary manner proved to be troublesome and slow-moving.
5. Maintenance of the interest and enthusiasm of research workers at a high level posed problems in a complex, long-term project.
6. Dependence on support funds granted for limited periods worked against attracting and retaining competent personnel and created problems with morale.

The foregoing problems are of a serious nature, but they can be resolved over the long term if administrators interested in research persevere. The fundamental factor is training health administrators and others to understand the research process and comprehend its advantages to public health. This is a task for schools of public health and for in-service training activities of all types. Restrictive employment policies must be liberalized through a continuing effort to educate policymakers to the essential role of research in present-day governmental operations. As more sophistication is gained by research personnel in carrying on studies of cross-disciplinary problems, it should be possible to avoid or to minimize the seriousness of many of the pitfalls of interdisciplinary studies. The problem of relatively short-term financing of research projects can be coped with by means of careful planning and the instigation of support from local funds for an adequate core research staff.

The experience reported here appears to establish clearly that, on balance, research in a local health department is a worthwhile endeavor yielding benefits far more important than the accompanying difficulties. Research, in our judgment, is imperative if public health at any level is to fulfill adequately its responsibilities to the people it serves.

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CHAPTER 11

Summary and General Comments

The general purpose of this project was to investigate chronic illness and the health needs of the aged in a Florida county with special concern for the changing role of public health in its relationship to the growing significance of long-term conditions as causes of morbidity and mortality. Specifically, the objectives were to increase the knowledge of the health and medical-care practices of an older population and to plan, establish, and evaluate service programs in community health to better satisfy their unmet needs.

Background of the Study

Pinellas County, in which the project was conducted, is a rapidly growing, predominately urban area located in the Tampa Bay district of west central peninsular Florida. The age structure of the population is atypical in that a disproportionately large share of the residents are 65 years old and over. The vast majority of them migrated to the communities because of the area's national reputation as a retirement center.

When health resources were inventoried early in the project term, the county had below national averages for physicians, dentists, and hospital and nursing home beds. Home health and home help services were minimal. A relatively large and adequately staffed county health department stressed traditional public health programs. Chronic disease programs and community health programs directed toward the special needs of the elderly were, in general, lacking.

Methods and Results

The Survey

Most of the information was obtained by means of a household survey of 2,544 noninstitutionalized residents of Pinellas County aged 65 and over. They were interviewed with the guidance of a schedule of questions prepared for the purpose. The probability sample was drawn by a systematic random procedure with the aid of city-directory listings and (in the case of nondirectory areas) aerial maps. Total nonresponse amounted to 8.9 percent of the eligible persons. Census and sample statistics were in reasonable agreement for age and sex distributions. Health condition was measured by checklists of symptoms and chronic diseases; social class position, by means of the major or career occupation.

Sample Characteristics

Comparison of the sample population with the national population indicated that the elderly of Pinellas County differed in these respects: the county sample was above the national norms for (1) educational achievement, (2) proportion married and living with spouse, and (3) socioeconomic level. The sample was below the national norms for (4) proportions of single, married-but-separated, widowed and divorced persons, and (5) proportion in the labor force. Because national statistics were not available, it was not possible to compare the degree to which this largely transplanted elderly population was socially integrated in this retirement area. It is interesting to note, however, that the findings reflected a high degree of concern with voting, an impressive amount of social and recreational activity, and the presence in the county of close friends or relatives of a large majority of the respondents. The most common organization memberships were in churches and fraternal orders, suggesting limited civic involvement. There was evidence of some social disengagement. Nearly one fourth were not registered to vote; one fifth did not belong to any organization including a church; and more than one in six lacked close friends or relatives in the county.

Recent Elderly Migrants

The data were examined further to determine if there were differentiating characteristics that set apart the more recent elderly migrants, that is, those who reported residence of less than five years. As evidence of the recency of migration of older persons to the county, this group comprised one third of the sample. When national data were available, they were compared with the population of the United States 65 years of age and over, holding sex and age constant. The hypothesis that long-distance migration by elderly persons involved a selective process was confirmed. Analysis showed that for the most part they were retired white couples in the "younger" old age group, that is, 65-69 years, had attained above-average educational level, and similarly enjoyed above-average income. Their health, as measured by prevalence rates for chronic conditions and impairments, was superior to the national norms. For those who had not cited health as a factor for moving to the area (85%), the favorable differential in regard to health was even greater.

Chronic Conditions and Impairments

Because a working definition of optimal health has not yet been devised, it was necessary to measure health status by prevalence of chronic diseases, impairments, and disabilities. The rates for the various conditions were impressive but, nevertheless, one conclusion that cannot be overlooked is that older persons in the county were relatively well-off in regard to their ability to function well in the community. This does not mean an absence of problems related to illness, disease, rehabilitation, and the receipt of medical care. For one thing the design of the sample eliminated persons in institutions, such as hospitals and nursing homes, and individuals who were judged too sick physically or mentally to provide a satisfactory interview. Therefore, the rates for one or more chronic conditions and for certain disabilities are understated by at least 3.5 percent or 35 per thousand.

Two thirds of the surveyed population reported that they had one or more chronic conditions or diseases. One in ten persons experienced some degree of limitation in the activities of daily living; but only one in a hundred was disabled seriously, that is, unable to feed himself, dress himself, and/or go to the bathroom. The ability to move about in the community was measured in terms of confinement to bed, chair, or house. Bed and chair confinement were defined as major limitations, and house confinement as minor limitation. Accordingly five in a hundred persons were limited in mobility; one of these five to the extent of confinement to a chair or bed. Higher rates for limitation of activity and mobility were found for individuals reporting the more serious types of diseases such as heart trouble, high blood pressure, stroke, and arthritis and rheumatism.

Of the 21 chronic conditions included in the interview check list, arthritis and rheumatism was the most prevalent (213 per 1,000 persons); high blood pressure and heart disease were reported at the rate of 178 and 173 persons per thousand, respectively. The diagnosed conditions with prevalence rates in excess of 30 per 1,000, in order of decreasing importance, were: prostate trouble, stomach or bowel trouble, kidney or bladder trouble, rupture or hernia, gall bladder trouble, anemia, diabetes, and bronchitis.

Special sections of the schedule were devoted to vision, hearing, and dental conditions. About one in ten persons reported loss of vision sufficient to cause serious difficulty in reading newspapers or magazines, with or without glasses. More than one third of the respondents had some impairment of hearing; one fourth of this group had a loss of major degree. About six in ten respondents had no teeth, and less than two in ten had most of their teeth. Visual and hearing loss was more common among persons with one or more chronic diseases than among those without such conditions; the same relationship was present, but not so marked, for edentulousness.

Women had higher rates of prevalence for one or more chronic diseases. The relative importance of specific diseases differed somewhat. Heart disease (191 per 1,000) was most prevalent for men; arthritis and rheumatism (152), second. Arthritis and rheumatism (271) ranked first for women; high blood pressure (231), second. Limitation of activity and mobility was more frequent for women, and they were more likely to have serious difficulty with vision. On the other hand, men reported higher rates for loss of hearing and edentulousness.

Using the two broad age groupings of 65-74 and 75 years and over, prevalence rates in the latter group were higher for one or more chronic diseases, visual impairment, hearing impairment, limitation of activity, limitation of mobility, and edentulousness. The pattern of prevalence rates for the ten most frequently reported chronic conditions examined by five-year age periods, reflected in general a direct relationship with increasing age for heart trouble, anemia, kidney and bladder trouble, prostate disease, and hernia. High blood pressure, arthritis and rheumatism, stomach and bowel trouble, and gall bladder trouble tended to peak at the middle older age classification (75-79). Diabetes was higher at 65-69, fell in the middle years and rose again at 85 years and over.

Annual family income was inversely related to the prevalence of visual and hearing impairment, limitation of mobility, and edentulousness; it was directly related to having most of one's own teeth. Although income status was not associated linearly with a diagnosis of one or more chronic diseases, prevalence rates were highest in the age-sex categories for those with the least annual income.

National rates comparable with the county were not always available. In some instances they had not been developed; in others dissimilar methodology precluded comparison. However, it was noted that prevalence rates for heart disease, high blood pressure, diabetes, rupture or hernia, and bronchitis were higher in the county than in the nation; the rate for arthritis and rheumatism was about the same; and that for asthma was lower. National and county rates for limitation of mobility were similar when all ages were compared, but the national rates were lower at ages 65-74 and higher at age 75 and over. Edentulousness was slightly less prevalent in the county than in the nation; however, loss of all teeth was slightly more common among men and considerably less common among women in the county as compared with the nation.

Use and Cost of Medical Services

The more important findings have been mentioned regarding the prevalence of certain chronic diseases, physical impairments, and the functional limitations imposed by these conditions in terms of activity and mobility. The next several paragraphs present a discussion of the manner in which the respondents met their felt needs for medical care and the financial cost of these services over the previous two-year period. The reliability and accuracy of these findings is outlined in the body of the report but in general it is believed that these statements underestimate the amount and costs of services.

Physician care (M.D. and D.O.) was received one or more times by a larger proportion (81.7%) of individuals than any other medical service. Four fifths of all persons stated that they had a physician in the city or county who regularly took care of their illnesses. The degree to which physician services were used varied widely; over one fifth of the respondents reported no visits; about one fourth, one to three visits; and nearly one seventh (13.7%), 20 or more. The average number of physician visits for the two-year period was almost ten (9.6). About one in twenty had obtained this service at public or private clinics. Less than one in ten (7.0%) of the sample population utilized the services of chiropractors and other non-M.D.-D.O. practitioners.

About half (51.5%) of those interviewed said they had a "regular" dentist. However, only one third (32.8%) had had dental service within the previous year, and over half (52.5%) had not had care for over three years. Apparently the presence or absence of "natural" teeth influenced dental care behavior to a marked extent. Three fourths (74.3%) of the edentulous (60% of the sample) had not received dental care within the past three years, while three fourths

(73.5%) of those with any of their own teeth *had* obtained dental service within that time period.

For survey purposes the use of medicines and drugs was regarded as a medical service. A high proportion (72.8%) reported their use and of these nearly one half (47.4%) indicated that they took such preparations daily. Laboratory tests and x-rays were utilized by about half (48.5%) of all persons interviewed. The number of tests or x-rays was understandably not known to respondents and was recorded as contacts with these services. On this basis a considerable number (45.0%) had had laboratory tests or x-rays on one or two occasions, and one in 20 reported 10 or more of these incidents for the period of inquiry.

Hospitals were utilized by almost one quarter (23.7%) of the sample population during the two years preceding interview. The median patient-stay was 11 days but one fourth (24.2%) reported hospital stays of 20 days or more.

A small percentage (0.5%) had used nursing homes, visiting nurses (0.9%), and full-time nurse at home (0.6%). The use of hearing aids was reported by 4.7 percent of the sample population; however, four in ten users regarded them as unsatisfactory.

Relatively more females than males used medicines and drugs and the services of physicians, dentists, and chiropractors and other non-M.D.-D.O. practitioners. Males were hospitalized more. The use of physicians and medicines and drugs tended to become greater at the higher ages and dentists and laboratory services to decrease.

By the use of certain variables, principally symptoms and diagnoses, individuals were classified by a statistical method as being in good or poor health. Those rated by this index as being in poor health obtained a much higher volume of physician, dental, and hospital services, used medicines and drugs more frequently, and received more laboratory tests and x-rays than those defined as being in good health. Among those in good health, receipt of hospital services tended to become greater with age, while the opposite tendency prevailed for the use of dentists and laboratory services. For those in poor health, the use of physicians, hospitals, dentists, and laboratory services decreased with advancing age. A direct relationship existed between the amount of annual family income and the use of physicians; dentists, hospitals, laboratory tests and x-ray services for the total sample irrespective of their health, according to the index.

For all respondents, regardless of whether they received the individual medical services, physician costs averaged $94 for the two years, hospital charges $86, and costs of medicine and drugs, $104. When only those who used, and reported these services are considered these figures are $130 for physician services, $384 for hospital charges, and $169 for the cost of medicines and drugs. The combined costs of services (excluding dental and hospital and health insurance) averaged $313 for all respondents and $373 for those who used one or more of the services. Average costs incurred by those who used the medical services were higher for men than for women.

It is estimated that total expenditures of the population of Pinellas County aged 65 and over for medical services included were approximately $26.5 millions during 1957-1959.

Supplementary Studies

Four supplementary studies were conducted in addition to the Household Survey of the Aged to accumulate further evidence for use as a guide in designing or improving health programs for the aged. These included a study of extrahospital nursing needs, a survey to determine the need for homemaker service, a survey of nursing homes, and a study of senility.

The study of extrahospital nursing needs was a replication of a study conducted in Butler County, Pennsylvania. The broad objective was to determine the nature and extent of these needs in Pinellas County. Six experienced public health nurse-interviewers completed schedules for approximately 1,800 representative households. Eighteen categories of public health interest were investigated. Each nurse made three judgments: the severity of the health problem; the ability of the family to cope with the situation, and whether public health nursing would help or solve the problem. Based on these criteria, recommendations for nurse visits were made if any potential for improvement existed. Need was considered to exist if a nurse visit was recommended.

The data were analyzed according to socioeconomic group and household composition, by category. About two thirds of households had need in the family food habits category; approximately one third for preventive health practices; and one sixth needed assistance in each of the following categories—acute and long term illness, dental practices, and accident prevention.

Need was most common among the lowest socioeconomic households with preschool children. Apparently households of older persons were better able to handle their own problems and thus had less need for nursing assistance.

Information from the study has been available immediately for in-service training of staff nurses and has been used also as a guide for the evolution of new procedures. The problems of certain categorical needs were so broad that the sharing of findings with other health workers and the coordinating of plans, especially with those in health education, will be necessary.

On the basis of community knowledge and study data, the provision of a homemaker service was high on a priority list; however, more specific information regarding the need was required. To obtain this information household surveys were conducted by the public health and visiting nurses and the district social workers of the state welfare department. The nurses collected information regarding 725 households, and the social workers, 438 households. In both instances these were the households that ordinarily would have been visited by personnel from these agencies during that particular one month period.

The nurses' survey revealed that 6.3 percent of the households visited could profit from the use of a homemaker; the incidence of need was far greater for households composed of one or two aged persons; conversely less need was found in larger and in nonwhite households. A third of the families with need were in the lowest socioeconomic group and one fifth had one or more members receiving public assistance.

The welfare workers' survey showed an immediate need for homemakers in 17.6 percent of the households visited. This high rate may be due to the fact that one or more individuals in these homes were either recipients or applicants for public assistance. Nonwhite individuals composed half the population in this group but only one third of the households. Forty percent of the heads of families were widowed persons.

Information was provided also by the majority of appropriate community agencies and there was consensus among them that homemaker service was needed. Some indicated that they would be able to buy this service for their clients and assist financially in the initiation of the program.

A nursing home survey was conducted in the summer of 1960. It had two purposes: (1) to gain further knowledge about nursing home practices, and (2) provide experience in research for public health physicians. The specific objectives were to measure: (1) medical care received by residents and (2) the degree to which nursing homes complied with State Board of Health rules and regulations relative to medical and patient records. A 25 percent systematic random sample of residents in all county nursing homes was drawn.

It was found that 12 percent of patients had received no medical care during the previous six months. There was little difference in the amount of care received by private and welfare patients; two thirds was given in the home; only 7 percent in the physician's office; no clinic visits were recorded, and telephone consultation constituted 25 percent of the treatment. Medical and patient records varied widely and were complete in only one third of the homes. As an example, nursing records were nearly complete (98.0%), followed by identification data (55.0%), chest x-ray reports (25.0%), and referral records (14.7%). It was believed that these shortcomings could be improved by in-service educational programs and general educational programs for professional and nonprofessional personnel.

A study of senility was conducted at the request and with the support of the Gerontology Branch, Division of Chronic Diseases, U. S. Public Health Service. The purpose was to develop an operational definition of senility and evolve a screening instrument to detect and measure varying degrees of this condition. It would be used for prevalence studies and ultimately provide the basis for health programs designed to prevent, detect, and control senility.

The project was directed by an experienced clinical psychologist, a professor from a state university. After exhaustive review of the literature, three components of a test for senile impairment were chosen: (1) a scale of manifest behavior, (2) a psychological-status interview, and (3) a group of tests to determine mental impairment.

Appropriate volunteers from nursing homes were tested to establish validity of the three-component test procedures. Multiple interviews involving 4-5 hours with each subject were required. Complex analysis of data indicated reliability. A final test was evolved which requires almost one hour. Standardization and evaluation will require extensive use.

Development of Health Programs for the Aged

The planning, initiation, and evaluation of public health programs for the aged was one of the original objectives of the research project. The use of research findings for this purpose required that they be made known to all persons and agencies responsible for the initiation and conduct of community health programs. A symposia series on chronic diseases was the technique decided upon. Attendance was by invitation and representatives were chosen from health organizations, welfare agencies, professional societies, and other groups. Information and data were presented by national, state, and county representatives. Small group discussions followed by general session gave consensus on recommendations. There were nine symposia, beginning with homemaker service, several dealing with specific diseases, and the final session for the purpose of assigning priority to the various recommendations and considering ways and means for their implementation.

The following programs were at the top of a priority listing: (1) homemaker service, (2) community services referral program, (3) screening programs for glaucoma and diabetes, and (4) nursing home educational program.

The responsibility for initiating the homemaker program was accepted by the Community Welfare Council. The service was undertaken by the Visiting Nurse Association of St. Petersburg; agency policies and methods of financing were developed, extra personnel was employed, homemakers were trained, and services initiated. The increase in demand for service the first year was gratifying. Training of a third group of homemakers has been planned. Six years elapsed from the beginning of early consideration to the initiation of services in 1964. Recognition of need did not automatically result in establishment of a new program. The greatest problem was stimulation of community agencies to effective action.

A carefully planned community services referral program was a keystone of those recommended. Accumulated data identified need. Hospital occupancy was high and welfare patients remained considerably longer than average. The program was to assist in the placement of patients in their homes or nursing homes, assist them in receiving out-of-hospital services, and otherwise augment medicosocial service for the benefit of patients, physicians, the hospital, and other services and facilities. An objective evaluation of the program was planned using a control and experimental group of patients.

The county health department, welfare department, city hospital administration, and hospital medical staff had given approval in principle. Plans were evolved assuming final endorsement; however, they were not approved when offered to the executive medical staff of the hospital. Assessment of the factors adversely affecting this proposed program was important. An encouraging sequel has been the recent initiation in two city hospitals of a less-auspicious, but nevertheless useful, program with the same objectives. Evaluation of these programs has not been formalized.

Screening programs had been recommended for the detection of several chronic diseases. Since the household survey had disclosed that over 2 percent of respondents reported a diagnosis of glaucoma, a Glaucoma Screening Week was planned in cooperation with ophthalmologists of the county medical society and the state voluntary society for the prevention of blindness. The principal objectives were to detect elevated intraocular tension, refer individuals with this finding to ophthalmologists, and to follow them until a definitive diagnosis had been made. Almost 2,000 were tested, and of these, 128 were in the suspect group giving a rate per 100 of 6.4. About one third were classified as emergencies. The remainder were divided into control and experimental groups. All were told to seek professional care as soon as possible. The test group was followed closely by public health nurses and urged, when necessary, to obtain a diagnosis; evaluation at the end of a six months period showed no difference between the two groups. Apparently individuals with serious eye trouble are well-motivated to seek medical care. Tentative plans have been formulated for sustained glaucoma screening clinics in the county.

In a county with half the residents over 45 years of age, public health has an obvious concern in the early detection and control of diabetes. A rate of 45 per 1,000 had been reported by respondents in the Household Survey of the Aged, and this was conservatively considered to be about half the expected prevalence of diabetes for this age group. A diabetes detection week was planned and sponsored by the health department, the county medical society, and the local lay group of the state diabetes association.

The objectives of this program were to test at least 5,000 diabetes-susceptible individuals by the Dextrostix method using capillary blood, refer suspects for diagnosis and treatment if necessary, and demonstrate the acceptability of such programs to physicians and the public. Over 8,000 persons were tested and 253 suspects discovered, giving a rate of 30.6 per 1,000. A significant number of tests (46.7 per 1,000) suggested a hypoglycemic state. Further probing of this finding has been planned.

Interviews with about 90 screenees suggested that more specifically directed educational efforts would have improved understanding and cooperation regarding the amount and time of food intake before the test. In general the objectives were more than adequately met and the establishment of diabetes screening centers on a continuing basis has been planned for two convenient locations.

Throughout the symposia series the desirability for continued and expanded efforts in all areas of health education had been emphasized. The Florida State Board of Health, nursing home associations and administrators, and others had expressed concern regarding general and in-service education for all nursing home personnel. The research division through a subcommittee of the Community Advisory Committee was directly responsible for the initiation of a nurse-aide course conducted by the Adult Education Division of the county school systems. Thirteen groups with a total of 190 have enrolled and 168 have completed the course since June, 1963. This activity resulted from research activities but the program was developed and conducted by an agency other than the health department.

Effects of Research

Research is not common in a local health department at a level more sophisticated than epidemiological investigation or review of vital records and compilation of incidence rates. Introduction of research into this county health agency has shown that supplementary benefits were derived and that, conversely, it created certain difficulties.

On the constructive side, the director of the department and some of the division directors became aware of the potential of research in program development and evaluation, and adopted a more critical attitude toward the effectiveness of programs under their control. Communication among divisions improved, resulting in a broader knowledge among personnel of programs other than their own. Disciplines employed in research, such as social science, provided consultation not previously readily available. Relations of the local health department were extended and improved with other health and welfare organizations in the community; recognition by state and national public health and professional organizations was achieved also. The presence of a functioning research division brought about further research studies because of interests within and requests from outside the department.

Although positive results did accrue to the health department, certain problems were encountered and created. Maintenance of an understanding and mutually supportive relationship between the research staff and administration proved difficult. Research concepts as an aid in program development were not always welcomed. There were intradivisional problems. It was difficult to recruit and retain trained and experienced research personnel. A noncompetitive salary scale existed; dependence on research grant funds, usually for relatively short time periods, created employment insecurity. And further, individuals with academic backgrounds possibly regarded health departments and certain communities as less attractive in terms of professional opportunity than a university environment. The interdisciplinary manner of conducting research was slow moving and occasionally frustrating; the long-term complex project created problems in maintaining high-level interest and enthusiasm.

The experience, however, established clearly that research in a local health department is valuable. The benefits outweigh the attendant problems. It appears imperative for public health to engage in research at the local level where programs meet people.

General Comments

The project described in this report was an undertaking of considerable magnitude, exceeding initial expectations. It provided a backlog of data from which various relationships among health and social variables may be derived. The objectives, as originally set forth, were broad and even longer-ranged than envisioned; to expect their accomplishment within the grant period may not have been realistic. More precisely defined short-term objectives, strategically spaced, would have prevented some frustrations for research personnel. A step-by-step achievement of intermediate goals would have provided a mutually supportive relationship between research and administration; that is, research assistance in solving current administrative problems would have ensured the continued enthusiasm of administration for the research process. While some objectives were not attained, the project was eminently successful in other respects. Research exercised an intangible but favorable effect on many individuals, causing the development of new concepts and attitudes that will be beneficial to public health in the future. In the department as a whole an atmosphere of judicious criticism toward operating programs was created and an improved level of operation has resulted.

The systematic approach to problems as used in research procedures was one of the most valuable concepts introduced. The development of hypotheses for testing, the orderly consideration of alternative methods for dealing with them, and the definition of specific objectives for new programs, are examples.

Research in the department resulted in the introduction of IBM card punching, sorting, and counting machines, thus creating in the department an awareness of the statistical possibilities inherent in almost all public health activities. It was natural for tabulation of local vital records to be considered and a program for keeping these data current has been planned.

New knowledge was discovered and old ideas confirmed. The older persons in the population were discovered to have more chronic disease and to require a correspondingly greater proportion of medical care when it could be afforded least. Nevertheless, an overwhelming majority were relatively healthy and by their own definition functioned well in the community. There is no doubt but what the investigators began with high hopes of discovering any number of medical situations related to the older population that would require unique and different public health methods to solve. The realization slowly became apparent that elderly persons simply needed more of the same medical services used by younger age groups. The proper role for public health is to act as stimulator and facilitator in the community, making certain that needed services are acceptable and available. The high prevalence of chronic diseases dictates the emphasis on service programs and appropriate screening procedures for the early detection of chronic conditions.

Certain program changes have resulted. A division of adult health and chronic disease in the department has been organized. A community services referral program has been initiated in two city hospitals on a modest scale. Homemaker services were introduced and had to be greatly expanded within a year. Demonstration screening clinics for glaucoma and diabetes have been well-accepted and successful. Plans are going forward for the inauguration of sustained screening clinics for these diseases. Nursing home educational programs have been vigorously encouraged and the impressionistic evaluation is that, in general, patient care is at an acceptably high level.

A principal objective of the project was to plan and evaluate public health programs for the aged. The initiation of programs distinctly for the aged has not been achieved, causing disappointment and frustration. Therefore, evaluation objectives have not been met to the extent originally planned. The evolution and initiation of new programs require acceptance by the community and in particular by certain influential groups such as physicians. Members of the medical profession have expressed their antipathy for federally supported medical programs beyond those which have been accepted as traditional areas for public health activity. The rapid population growth has made it impossible for the social agencies to keep pace with expanding needs and, therefore, the community is less sophisticated in this respect than areas which have not experienced this type of change. Whether the concentration of older persons actually makes the community more conservative is only conjecture.

There have been some gratifying parallel results to the research undertakings of the local health department. Chief among these were other research projects, particularly well-conducted studies of extrahospital nursing needs and of senility, described in Chapter 8. Both made significant contributions to knowledge. The presence of the research division within the department and the cooperation of the department resulted in the locating of a group from the U. S. Public Health Service for the study of accidents of the aged. To a limited extent members of the research division served in a consultive and advisory capacity for other departmental and certain community projects.

The Household Survey of the Aged has provided a valuable baseline for future public health and social studies of the aged. A resurvey of the 1959 respondents would provide prospective information and discover further important chronic disease, medical care, and social data for a known elderly group. Review of death certificates indicates that approximately 20 percent of the sample has died. Examination and comparison of this information with survey schedules, using symptoms and diagnoses given at the time of the interview, would prove interesting. The migratory practices of the surviving spouse could be determined. A re-interview of respondents would add a valuable chapter to the social and medical history of these older persons.

Certain underlying propositions have been reinforced. The most important, and to some extent self-evident, are the following:

1. Research is a valuable asset to public health administration and should be an integral function of every large health department.

2. Research is not a panacea for public health problems; it is another tool to better identify and define them and to evaluate the activities or programs devised to improve or solve problems.

3. The epidemiology of chronic disease is a long-range, complicated procedure and requires research techniques. The evaluation of programs for chronic disease is not simple.

4. Research findings and technical knowledge are not easily converted into practical public health programs. Some of the reasons are:

a) community reaction to suggested change is essentially conservative;
b) important groups have dissimilar philosophies;
c) agencies lack common objectives, and
d) methods of attaining goals differ because of special functions, training and experience of personnel and source of financial support.

5. The experiences of the Pinellas County Health Department in conducting research provide guidelines for the initiation of research in other health departments of comparable size.

6. The research efforts described constitute a relatively early attempt to develop a research division in a local health department at a crucial point in the historical development of public health.

APPENDICES

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Appendix A

The Sample

Prior to the design of the sample, a systematic search was made for information that could be utilized as a sample frame. Neither census tract data nor up-to-date aerial maps with adequate definition were found to be available. In view of the analytical objectives of the research, the nonrepetitive nature of the survey, and the continuing rapid growth and development of the area to be surveyed, it was clear that the preparation of new listings or maps that could be used as sample frames was not feasible. The city directories were selected as the best existing frames. The listings in the directories were too inclusive in that they included nonresidential locations as well as ineligible residences, and they were deficient in that certain types of residence, such as apartments, trailers, and hotel accommodations, were not fully listed. The procedure decided upon was to screen out all ineligible addresses and to supplement the deficiencies in the listings by drawing on separate listings. It was decided also that the sampling objective should be to select a representative sample of households in which there lived one or more persons aged 65 or over. Interest in the household unit existed because of its importance to the analysis in this cross-sectional study as well as in longitudinal studies which might utilize the present sample as a universe.

The procedures for the selection of the sample were developed with special attention to the objectives of the operational research aspects of the project. The term operational research as applied to the project was understood to be an activity carried on by members of an operating team whose responsibilities normally are restricted to performing functions required by the operation of the health department. One of the goals of the research team was to involve the staff members of the health department in research in such a way that interest in the functioning of the operating programs would be stimulated and the role of the research endeavor made clear. Thus, an attempt was made to use the simplest techniques consistent with good research practice. This involved the use of routine mechanical procedures in the selection process and the maximum simplification of each step. It was believed that a systematic selection of households from a random start and a sample sufficiently large to provide information about certain attributes of the sample population itself, deemed to be of importance to the analysis, would accomplish the objectives of the research. Given the limitations of the frames and the problems of eliminating their deficiencies, it is believed that the sampling procedures, nevertheless, are the best that could have been devised for attaining the research objectives. In all instances, the procedures have embraced the consistent use of random and systematic selection within area and supplementary listings.

Population sampled. The eligible population of the households sampled was composed of all noninstitutionalized residents of Pinellas County, Florida, aged 65 and over at last birthday who were residing in Pinellas County on or before July 1, 1958, and who were able to respond to questions in an interview. The institutionalized population was defined to include persons living in licensed homes for the aged, licensed nursing and convalescent homes, hospitals, jails, and prisons. Persons who were too ill, mentally disturbed, or senile to submit to interviewing were excluded from the universe. To be eligible, a person had to be a resident of the county as defined by the United States census of population, that is, the county must have been his usual place of abode—the place where he lived and slept most of the time. The information was obtained from eligible respondents during April, May, June, and July, 1959.

Sample frames. The sample frames were composed of the following listings and related sources of information:

St. Petersburg City Directory
Gulf Beaches City Directory
Clearwater City Directory
Tarpon Springs City Directory
Selected maps and aerial photographs of nondirectory area
Complete lists of trailer parks and trailers in Pinellas County
Listings of hotels from the yellow pages of the telephone directories for Pinellas County
Listings of apartment houses from the yellow pages of the telephone directories for Pinellas County

Sampling procedure. Each city directory was sampled in the same proportion, and the households in the nondirectory area were sampled to the same depth as the households in the directory areas in an attempt to retain equally proportionate sampling throughout. The basic structure of the sample was derived from the directory listings, which also provided the geographic stratification and dispersion desired.

The sampling procedures involved the drawing of a series of samples on a systematic basis from a random start. Each item to be drawn from the city directories was given an equal and known chance of being drawn into the sample. It was anticipated that the city directories would be deficient in their listings of certain types of households. Because of this, listings of the uncovered segments of the universe were prepared, and samples of these were selected. Through these supplementary selections all major types of households were sampled to the same depth.

Maps of the nondirectory areas were utilized to sample households in these areas by the use of two-stage sampling. The total area was divided into 55 sub-areas. A sample of sub-areas was randomly chosen. From each of the sample areas a number of households was selected on a systematic basis from a random start. The effect of this procedure was to produce some clustering in the nondirectory area, and yet the sub-areas were likewise dispersed as a result of the systematic basis of selection. It should be pointed out that the determination of the number of households in each sub-area was based on estimates.

The city directories were very incomplete in listing trailers and trailer courts. In view of this deficiency and the fact that a complete list of all trailers in the county was available from the records of the health department, the latter list was utilized in the selection of trailer households. A cumulative list of trailers in each directory area and in the nondirectory area was prepared, and trailers were sampled to the same proportionate depth as other types of households in the areas. This determination of the relative proportion of trailers to other types of households was worked out on the basis of census data and information obtained from records of the Florida Power Company and other local sources. In those trailer parks in which no systematic numbering system was used, all trailers were numbered on a serpentine basis. From a random start, systematic selections of trailers were made in each geographic area.

In the case of hotels and apartment houses, supplementary samples were selected to add to the samples drawn from the directories. The apartments were sampled to the same depth on the basis of an estimate of their relative proportion to other types of dwelling units in each area. A two-stage sampling procedure was followed. A random selection of apartment houses was drawn from a complete supplemental listing, and then a sample of apartments was drawn from this group. In the case where an apartment house was not numbered, a systematic numbering procedure was worked out and applied. The apartments in each area were ordered geographically, the apartments were numbered from 1 to *n*, then a systematic selection was made from a random start so as to draw into the sample an adequate number of apartments for screening. A procedure similar to that used in sampling apartments was applied to the selection of households established in hotels. There is serious question as to the correctness of the proportions sampled, but it is known that the proportion of households residing in hotels is comparatively small relative to the total number of households.

Because of the manner in which motels operate in the area, being designed principally as accommodations for transients, no supplementation was made to the city directory listings. Motel units listed in the directory were treated as households and sampled as all other directory items. In cases where only the motel was listed, it was treated as one household on the assumption that the only permanent one was that of the manager and his family.

The total number of items in the respective city directories and supplementary listings and the number of items selected for screening are as follows:

Geographic Area	Number of Listings	Number of Listings Sampled for Screening
St. Petersburg	90,568	4,148
Gulf Beaches	11,157	511
Clearwater	32,424	1,485
Dunedin		
Largo		
Tarpon Springs	3,340	153
Nondirectory area	4,220	194

The screening of these above sample listings resulted in the number of dwelling classifications in each geographic area shown in Table I.

The screening of all of the addresses, including the pretest which was carried out in St. Petersburg, resulted in the following classification of listings for purposes of identifying eligible households which are defined as those with one or more persons of age 65 or over:

Area	Households With One or More Persons Aged 65 or Over	Households With No Person Aged 65 or Over	Ineligible Listings	Listings Unidentified
St. Petersburg	1,235	2,036	770	107
Clearwater	390	721	346	28
Tarpon Springs	40	79	33	1
Gulf Beaches	86	276	8	141
Nondirectory area	30	88	1	75
Total	1,781	3,200	1,158	352

The screening of the eligible households revealed that there were 2,829 eligible persons aged 65 or over residing therein. Refusals were received from 228 of them and schedules were completed on 2,580. This is summarized below.

Area	Eligible Persons in Sample	Eligible Persons Not Available	Refusals	Eligible Persons Interviewed
St. Petersburg	1,984	10	174	1,800
Clearwater	618	9	41	568
Tarpon Springs	57	0	3	54
Gulf Beaches	129	1	10	118
Nondirectory area	41	1	0	40
Total	2,829	21	228	2,580*

* This includes 36 persons too ill to be interviewed, for whom a substantial amount of information was obtained by means of a special third-person schedule.

These comments are designed to give a general description of the sample procedure that was followed and to indicate its strong and weak points. It is believed that a good cross section of the population was obtained, despite the statistical limitations noted. Some segments of the universe have been sampled more precisely than others. In any event, it is necessary to keep in mind that the most extensive listings sampled are the city directories, and expansions of these samples will contain the deficiencies the directories contain. The sizes of the supplementary samples drawn to correct for deficiencies in the directories are based on estimates of the underenumeration of certain types of households in the directory listings. Thus, the total sample selected is subject to any errors that may have been made in the estimates of the underenumeration.

TOTAL NUMBER OF CLASSIFICATIONS SCREENED IN EACH DIRECTORY

Type Dwelling	Total	St. Petersburg	Clearwater	Tarpon Springs	Gulf Beaches	Non-directory
Total	6,491	4,148	1,485	153	511	194
Detached single	4,149	2,776	906	108	282	77
Apartment	1,231	779	302	23	125	2
Hotel	28	24	3	0	1	0
Motel	62	27	17	0	18	0
Guest/tourist/boarding	31	29	1	0	1	0
Trailer	697	359	187	18	34	99
Nondwelling–business	49	32	12	1	4	0
Nondwelling–vacant lot	75	24	28	3	5	15
Nondwelling–under construction	2	1	1	0	0	0
Other type dwelling	164	96	26	0	41	1
Not applicable*	3	1	2			

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* Nonexistent addresses

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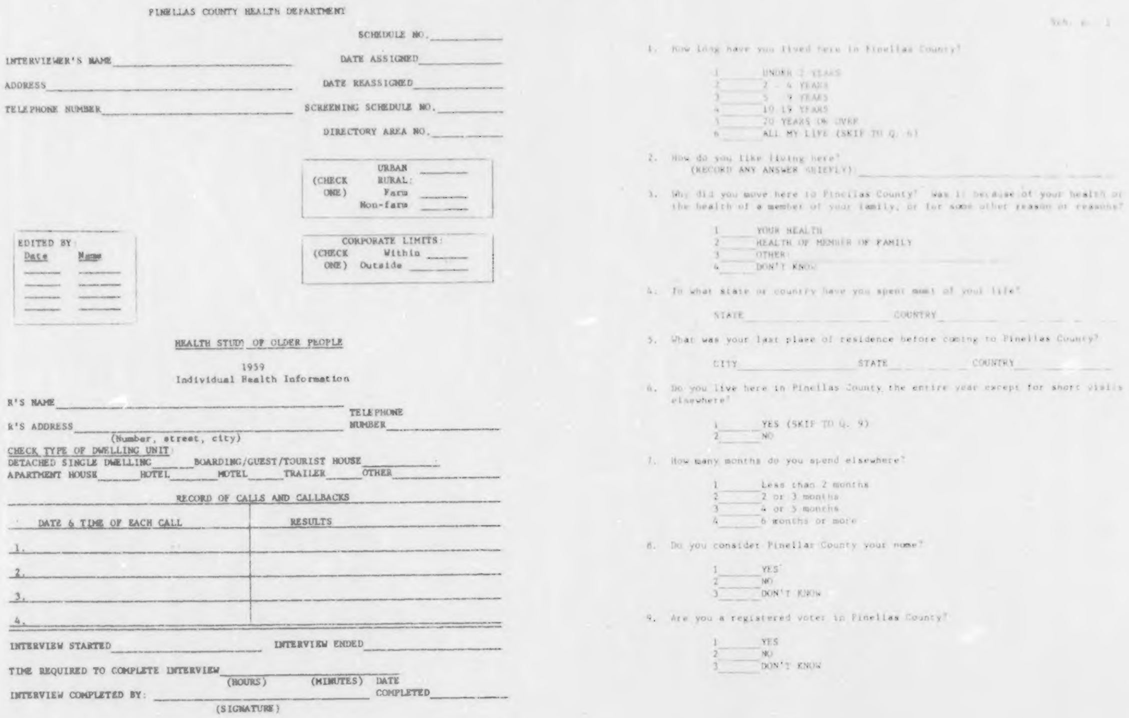
Appendix B

The Schedule



PINELLAS COUNTY HEALTH DEPARTMENT

SCHEDULE NO.____________

INTERVIEWER'S NAME____________________ DATE ASSIGNED____________

ADDRESS____________________ DATE REASSIGNED____________

TELEPHONE NUMBER____________________ SCREENING SCHEDULE NO.____________

DIRECTORY AREA NO.____________

(CHECK ONE)
URBAN ______
RURAL:
Farm ______
Non-farm ______

CORPORATE LIMITS:
(CHECK ONE)
Within ______
Outside ______

EDITED BY:

Date	Name
______	______
______	______
______	______
______	______

HEALTH STUDY OF OLDER PEOPLE

1959
Individual Health Information

R'S NAME____________________

R'S ADDRESS____________________ TELEPHONE NUMBER____________
(Number, street, city)

CHECK TYPE OF DWELLING UNIT:
DETACHED SINGLE DWELLING______ BOARDING/GUEST/TOURIST HOUSE__________
APARTMENT HOUSE______ HOTEL______ MOTEL______ TRAILER______ OTHER__________

RECORD OF CALLS AND CALLBACKS

DATE & TIME OF EACH CALL	RESULTS
1.	
2.	
3.	
4.	

INTERVIEW STARTED______________ INTERVIEW ENDED______________

TIME REQUIRED TO COMPLETE INTERVIEW______________
(HOURS) (MINUTES)

INTERVIEW COMPLETED BY: ______________ DATE COMPLETED__________
(SIGNATURE)

Sch. p. 1

1. How long have you lived here in Pinellas County?

   1______UNDER 2 YEARS
   2______2 - 4 YEARS
   3______5 - 9 YEARS
   4______10-19 YEARS
   5______20 YEARS OR OVER
   6______ALL MY LIFE (SKIP TO Q. 6)

2. How do you like living here?
   (RECORD ANY ANSWER BRIEFLY)______________________

3. Why did you move here to Pinellas County? Was it because of your health or the health of a member of your family, or for some other reason or reasons?

   1______YOUR HEALTH
   2______HEALTH OF MEMBER OF FAMILY
   3______OTHER:______________
   4______DON'T KNOW

4. In what state or country have you spent most of your life?

   STATE______________ COUNTRY______________

5. What was your last place of residence before coming to Pinellas County?

   CITY______________ STATE______________ COUNTRY______________

6. Do you live here in Pinellas County the entire year except for short visits elsewhere?

   1______YES (SKIP TO Q. 9)
   2______NO

7. How many months do you spend elsewhere?

   1______Less than 2 months
   2______2 or 3 months
   3______4 or 5 months
   4______6 months or more

8. Do you consider Pinellas County your home?

   1______YES
   2______NO
   3______DON'T KNOW

9. Are you a registered voter in Pinellas County?

   1______YES
   2______NO
   3______DON'T KNOW

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10. Is this your own home or do you rent here?

1_____ OWN
2_____ RENT
3_____ OTHER (SPECIFY)____________________________

11. Would you mind telling me who lives here with you, that is, in this household?

HOUSEHOLD COMPOSITION

Name or Identification	Sex	Age	Marital Status**	Race	Relation to R***
1.*					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

*WRITE "R" BESIDE NAME OF RESPONDENT
**M-MARRIED; S-SINGLE, W-WIDOWED; SE-SEPARATED, D-DIVORCED
***WRITE "H" BESIDE "HEAD OF HOUSE"
(IF "R" LIVES ALONE WRITE IN "NO OTHERS" ACROSS BOX)

12. Where were you born?______________________________
CITY STATE COUNTRY

13. Would you mind telling me the date of your birth?____________
MONTH, DAY, YEAR

14. Concerning your health now, would you say it is very good, good, poor or very poor?

1_____ VERY GOOD
2_____ GOOD
3_____ POOR
4_____ VERY POOR
5_____ DON'T KNOW

15. Would you say it has been the same during the past five years? Has it been getting better, or has it been getting worse?

1_____ BETTER*
2_____ WORSE*
3_____ SAME
4_____ DON'T KNOW

*To what do you attribute this change? (NOTE ANY REASONS)

____
____

16. Do you think your health is better or worse than that of other people your age?

1_____ BETTER
2_____ WORSE
3_____ SAME
4_____ DON'T KNOW

17. Do you usually look forward to each day's activities?

1_____ YES
2_____ NO
3_____ DON't KNOW

18. Which of the following do you do fairly regularly now? READ LIST AND CHECK THOSE DONE. IF R DOES NONE OF THESE ACTIVITIES, CHECK # 27.

1_____ Take walks
2_____ Tend garden or yard
3_____ Play shuffleboard
4_____ Fish
5_____ Swim
6_____ Go boating
7_____ Go dancing
8_____ Go shopping
9_____ Bowling
10_____ Drive a car
11_____ Take trips
12_____ Attend dog races, ball games and so on
13_____ Sit on green benches
14_____ Attend Mas. Park Programs
15_____ Attend church
16_____ Take classes
17_____ Visit friends
18_____ Go to bars
19_____ Watch television
20_____ Listen to radio
21_____ Sew, knit, crochet*
22_____ Read
23_____ Work on hobby
24_____ Play card games
25_____ Go to library
26_____ Other things (List under comments)
27_____ Has no activities

COMMENTS.

*ASK WOMEN ONLY

19. Do you belong to any organizations such as the following?

1_____ Church
2_____ Health organization
3_____ Neighborhood group
4_____ Civic group
5_____ Lodge or fraternal group
6_____ State society
7_____ Any other (Specify)____________________
8_____ NONE

20. In your opinion, are the people in this community friendly?

1_____ YES
2_____ NO
3_____ DON'T KNOW

21. Do you have any close friends or relatives in this community with whom you can talk over personal matters?

1_____ YES
2_____ NO)
3_____ DK) SKIP TO Q. 24)

22. Are these friends or relatives or do you mean you have both close friends and relatives here?

1______RELATIVES
2______FRIENDS
3______BOTH

23. How often do you visit with these close friends or (and) relatives? At least once a week, at least once a month or less often?

1______AT LEAST ONCE A WEEK
2______AT LEAST ONCE A MONTH
3______LESS OFTEN
4______DON'T KNOW

24. Do you have any relatives living elsewhere?

1______YES
2______NO
3______DON'T KNOW

25. Generally speaking, do you feel that people treat you fairly?

1______YES
2______NO
3______DON'T KNOW

26. Do you feel that anyone is against you?

1______YES
2______NO
3______DON'T KNOW

27. What was the last grade of school you completed?

A. GRADE* ____1____2____3____4____5____6____7____8
B. HIGH SCHOOL____1____2____3____4
C. COLLEGE ____1____2____3____4
D. GRADUATE OR PROFESSIONAL SCHOOL ________
E. NO FORMAL EDUCATION______
F. *IF UNGRADED SCHOOL, ASK: How many years did you attend?_____YEARS

28. Did you attend any other school, such as business, technical or trade school?

1______YES
2______NO

29. What is your religious preference?

1______JEWISH
2______CATHOLIC
3______PROTESTANT - SPECIFY DENOMINATION______________
4______OTHER:____________________
5______NONE
6______DON'T KNOW

Now I would like to ask you some questions regarding your eating habits.

30. How many meals do you usually eat daily?

1______ONE
2______TWO
3______THREE
4______OTHER:______________________________

31. Could you tell me what you had for breakfast today? (OR, IF INTERVIEW IS IN MORNING, ASK:) Dinner last night?
IF RESPONSE IS PROMPT AND SOUNDS REASONABLE, RECORD AS "YES"; OTHERWISE, "NO"

1______YES
2______NO

32. On the average, how often do you eat your meals out - that is, at a restaurant, cafeteria or dining room?

1______ALL MEALS
2______ONCE A DAY
3______2 OR 3 TIMES A WEEK
4______ONCE A WEEK
5______ONCE A MONTH
6______OCCASIONALLY
7______NEVER
8______DON'T KNOW

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Now I would like to read a list of questions regarding your health. These are about conditions or troubles people often have. If you have any of them now, I would like you to answer "yes" for each.

FIRST - READ COMPLETE LIST OF SYMPTOMS, 33 THROUGH 82, CHECKING "YES" OR "NO".

SECOND - ASK FOR SYMPTOMS MENTIONED, "Is this condition or trouble being treated?" RECORD "YES" OR "NO".

THEN, IF SYMPTOM IS NOT BEING TREATED, ASK QUESTION BELOW. RECORD BY CORRESPONDING NUMBER 1 THROUGH 6 FOR ALL UNTREATED SYMPTOMS.

"Could you tell me why this condition is not under treatment?"

1. ISN'T SERIOUS ENOUGH
2. TREATMENT DIDN'T OR WON'T HELP
3. COST TOO MUCH
4. I TOLD DOCTOR, BUT HE PAID NO ATTENTION
5. I CAN'T SPARE TIME TO GO TO DOCTOR
6. OTHER REASONS: ______________________

SYMPTOMS	HAS SYMP.		UNDER TREATMENT		WHY NOT TREAT.
	YES	NO	YES	NO	
33. Would you say you are very nervous?					
34. Do you have trouble sleeping at night?					
35. Are you troubled by headaches as often as once a week?					
36. Do your hands shake a lot?					
37. Are you bothered by a poor appetite?					
38. Have you been losing weight lately?					
39. Do you feel tired most of the time?					
40. Are you bothered by constipation?					
Do you have any of the following as often as once a week					
41. Dizzy spells					
42. Weak spells					
43. Nose bleeds					

EDITOR'S IMPRESSION:

SYMPTOMS (Continued)	HAS SYMP.		UNDER TREATMENT		WHY NOT TREAT.
	YES	NO	YES	NO	
Do you have any difficulty doing the following:					
44. Talking					
45. Eating					
46. Swallowing . . .					

INSTRUCTIONS FOR 47 & 48: DESCRIBE ONLY AS RT. HAND, LT. LOWER LEG, ETC. UNDER: IF "YES" DESCRIBE.

47. Have you paralysis of an arm or leg?					
a. If "YES", DESCRIBE ______________________					
48. Have you lost the use of an arm or leg?					

a. IF "YES", DESCRIBE ______________________

EDITOR'S IMPRESSION:

49. Are you bothered by indigestion after eating, such as heartburn or bloating?					
50. Do you often get sick to your stomach or vomit? . .					
51. Are you bothered a good deal by pains or cramps in your stomach or bowels?					
52. Do you have frequent attacks of diarrhea or loose bowel movements?					
53. Do you have piles or hemorrhoids? (IF NO, SKIP TO #56)					
54. Do they bleed? . .					
55. Are they painful?.					
56. Do you have bleeding from the bowels?					
57. Have you lost any control of your bowels?					

EDITOR'S IMPRESSION:

SYMPTOMS (Continued)	HAS SYMP. YES	NO	UNDER TREATMENT YES	NO	WHY NOT TREAT.
58. Does shortness of breath prevent you from walking upstairs or as far as 2 or 3 city blocks?					
59. Does walking, hurrying or lifting give you pains in the chest or arms?					
60. Are your feet or ankles swollen at bedtime?					
61. Does your heart pound or skip enough to bother you?					
62. Do you have any numbness or tingling of your hands or feet?					
63. Do you suffer from cramps in your legs after walking one or two blocks?					

EDITOR'S IMPRESSION:

64. Do you have a cough most of the time?					
65. Do you ever cough or spit up blood?					
66. Do you have any wheezing in your chest after walking fast, going upstairs, or lifting?					

EDITOR'S IMPRESSION:

Many people seem to have trouble with aches and pains in their joints and limbs. Now I'm going to ask you some questions about this. (UNDER "IF YES, DESCRIBE" FOR QUESTIONS 67, 68, 69, LIMIT DESCRIPTION TO RT. SHOULDER, LT. HIP, FINGERS RT. HAND, ETC.)

67. Do you have any stiffness or swelling of the joints? a. IF YES, DESCRIBE: ______					
68. Have you lost the use or motion of any joints? . . a. IF YES, DESCRIBE: ______					
69. Are any of your joints painful? . . . . a. IF YES, DESCRIBE: ______					
70. Are you bothered by a stiff or painful back? . . .					
71. Do you have any foot trouble, ... such as sore feet, corns, callouses, ulcers, warts, painful arches, swelling, stiffness, sore heels, ingrown nails, etc.? What is it? (UNDERLINE OR DESCRIBE) ______					

EDITOR'S IMPRESSION:

	HAS SYMP. YES	NO	UNDER TREATMENT YES	NO	WHY NOT TREAT.
Now I want to ask you some questions about bladder or kidney trouble.					
Do you have to pass your urine frequently					
72. during the day?					
73. at night?					
74. Is there ever any blood in the urine?					
75. Do you have any burning when you urinate?					
76. Have you lost any control of your bladder?					
ASK MEN ONLY:					
77. Do you have prostate trouble?					
78. Is passing urine difficult?					
79. Is passing urine painful?					
ASK WOMEN ONLY:					
80. Do you have any female trouble? . . . . a. IF YES, SPECIFY: ______					
81. Are you bothered by any vaginal bleeding?					
82. Are you bothered by any vaginal discharge?					

EDITOR'S IMPRESSION:

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83. Do you have most of your own teeth, some of your teeth or none of your own teeth?

1____MOST OF YOUR OWN TEETH
2____SOME OF YOUR OWN TEETH
3____NO TEETH (SKIP TO Q. 86)

84. Do you have any trouble with your own teeth?

1____YES
2____NO (SKIP TO Q.86)

85. What is it? (WHAT TROUBLE DOES RESPONDENT HAVE WITH HIS OWN TEETH?)

1____ACHING
2____ABSCESSED
3____BROKEN OR JAGGED
4____LOOSE
5____SORE OR BLEEDING GUMS
6____OTHER ____________________

86. Do you have false teeth or dentures?

1____YES
2____NO (SKIP TO Q. 92)

87. Are these upper plate, lower plate, both upper and lower plates or partial plate?

1____UPPER PLATE
2____LOWER PLATE
3____BOTH UPPER AND LOWER PLATES
4____PARTIAL PLATE
5____OTHER: ____________________

88. Do you wear them regularly?

1____YES
2____NO

89. Can you eat with them satisfactorily?

1____YES
2____NO

90. Are you having any trouble or difficulty with your false teeth or dentures?

1____YES
2____NO (SKIP TO Q. 93)

91. What is it? (WHAT TROUBLE DOES RESPONDENT HAVE WITH HIS FALSE TEETH OR DENTURES?) (ASK - THEN SKIP TO Q. 93)

1________LOOSE OR DON'T FIT
2________CAN'T GET USED TO THEM
3________DON'T LOOK RIGHT
4________UNCOMFORTABLE
5________MAKE MOUTH SORE
6________BROKEN AND NEED REPAIR
7________CAN'T AFFORD TO HAVE THEM REPAIRED
8________OTHER: ____________________

92. Why is it that you don't have false teeth or dentures?

1________CAN'T AFFORD THEM NOW
2________GET ALONG WELL WITHOUT THEM
3________BROKE OR LOST THEM
4________DON'T NEED THEM
5________OTHER: ____________________

93. When did you last visit a dentist?

1________WITHIN PAST YEAR
2________ONE TO THREE YEARS AGO
3________MORE THAN THREE YEARS AGO

94. Do you have a regular dentist?

1________YES (SKIP TO Q. 96)
2________NO

95. Why is that? (REASONS RESPONDENT DOES NOT HAVE A REGULAR DENTIST)

1________NOT IMPORTANT
2________CAN'T AFFORD REGULAR DENTAL CARE
3________DON'T LIKE TO GO
4________DON'T NEED ONE
5________MY TROUBLES ARE OVER
6________CAN GET ONE WHEN NECESSARY
7________OTHER: ____________________

96. Do you usually read the newspaper?

1________YES
2________NO

97. What do you consider the most important news of the past week?
FOR ANY REASONABLE ANSWER, CHECK "YES."
IF UNACCEPTABLE OR VAGUE, CHECK "NO."

1________YES
2________NO

98. Is your sight or vision so poor that you find it difficult to read newspapers or magazines? (THIS MEANS EITHER WITH OR WITHOUT CLASSES)

1________YES
2________NO

99. Have you ever had your eyes examined?

1_____YES
2_____NO (SKIP TO Q. 102)

100. Who was it that examined your eyes? Was it -

1_____a medical doctor (eye specialist)?
2_____an optometrist?
3_____an osteopath?
4_____someone else? SPECIFY:_______________
5_____DON'T KNOW

101. When was that? (WHEN DID RESPONDENT HAVE EYES EXAMINED?)

1_____LESS THAN TWO YEARS AGO
2_____TWO - FIVE YEARS AGO
3_____MORE THAN FIVE YEARS AGO

102. Do you wear glasses now?

1_____YES
2_____NO (SKIP TO Q. 104)

103. Were the glasses you now use prescribed for you by a medical doctor, an optometrist, an osteopath, or did you buy them at a store?

1_____MEDICAL DOCTOR
2_____OPTOMETRIST
3_____OSTEOPATH
4_____BOUGHT THEM AT A STORE
5_____OTHER_______________
6_____DON'T KNOW

(SKIP TO Q. 105)

104. Why is it that you don't wear glasses?

1_____CAN'T AFFORD NEW ONES
2_____BROKEN
3_____DON'T FIT
4_____CAN READ BETTER WITHOUT THEM
5_____OTHER_______________

(ASK ONLY THOSE WHO WEAR OR HAVE WORN GLASSES) (Q. 105)

105. How long have you worn your present glasses, or how long has it been since they were changed?

____
YEARS OR MONTHS

106. Have you complete loss of vision in one or both eyes?

1_____ONE
2_____BOTH (SKIP TO Q. 108)
3_____NEITHER

107. Have you partial loss of vision in one or both eyes?

1_____ONE
2_____BOTH
3_____NEITHER

108. Have you ever been told you have cataracts?

1_____YES
2_____NO

109. Have you ever been told that you have glaucoma?

1_____YES
2_____NO

110. Have you ever been told that you have any other condition that affects your sight or vision?

1_____YES
2_____NO (SKIP TO Q.112)

111. What was this trouble? (ANY OTHER EYE DISEASE OR CONDITION)

____
____

112. Do you ever hear voices?

1_____YES
2_____NO

113. Is your hearing affected in one or both ears? (ASK Q. 121 OF ALL RESPONDENTS WHO INDICATE THAT THEIR HEARING IS AFFECTED)

1_____ONE
2_____BOTH
3_____NEITHER (SKIP TO Q. 115)

114. Is this loss of hearing slight, moderate or total?

1_____SLIGHT
2_____MODERATE
3_____TOTAL

115. Have you ever had your ears examined for hearing loss?

1_____YES
2_____NO (SKIP TO Q. 117)

116. When was that? (HOW LONG AGO?) _______________ MONTHS OR YEARS

117. Was a hearing aid ever recommended for you?

1_____YES
2_____NO

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118. Do you use one now?

1______YES
2______NO (SKIP TO Q. 121 AND NOTE INSTRUCTIONS)

119. Is it satisfactory?

1______YES (SKIP TO Q. 121)
2______NO
3______DON'T KNOW

120. Why is that? (WHAT ARE THE REASONS A HEARING AID IS NOT SATISFACTORY? CHECK ALL REASONS MENTIONED)

1______TOO NOISY
2______DOESN'T HELP
3______UNCOMFORTABLE
4______CAN'T GET USED TO IT
5______BROKEN
6______OTHER: __________________________

(ASK Q. 121 ONLY OF THOSE RESPONDENTS WHO HAVE INDICATED HEARING LOSS IN Q. 113, #1 or #2.)

121. Does your loss of hearing or deafness limit or affect any of the following activities?

(CHECK ALL "YES" RESPONSES)
1______Ordinary conversation
2______Group conversation
3______Listening to radio or television
4______Driving a car
5______Your usual work
6______Travelling alone
7______Other: __________________________
8______None

TABLE I: QUESTIONS 122 - 133

I am going to ask you questions about illnesses or conditions you now have or have had during the past two years.

First, I would like to know.....ASK QUESTION 122. CIRCLE DIAGNOSIS WHEN RESPONDENT ANSWERS "YES" IN 1 THROUGH 23 AND RECORD NUMBER IN CHECK LIST BOX, COLUMN 122.

THEN, ASK QUESTIONS 123 THROUGH 130, REGARDING EACH DIAGNOSIS CHECKED UNDER 122. RECORD 1 FOR "YES", 2 FOR "NO" AND 3 FOR "DON'T KNOW" (DK) IN COLUMN 123 CORRESPONDING TO QUESTION IN THE CHECK LIST BOX.

ASK QUESTIONS 131 AND 132 FOR EACH DIAGNOSIS CHECKED UNDER 122, READING THE CHOICES AND RECORD ANY ANSWERS IN THE CHECK LIST BOX BY NUMBER, i.e., UNDER 131 IF R IS CONFINED TO BED, RECORD 1 UNDER COLUMN 131 OPPOSITE DIAGNOSIS INDICATED IN COLUMN 122.

UNDER QUESTION 132, ASK RESPONDENT PROBE QUESTIONS 1 THROUGH 8, AND RECORD THE NUMBER REPRESENTING THE FIRST DISABILITY THAT RESPONDENT HAS, i.e., IF R SAYS DISABILITY KEEPS HIM FROM DRESSING HIMSELF, RECORD 2 UNDER COLUMN 132 OPPOSITE DIAGNOSIS INDICATED IN COLUMN 122. DO NOT PROBE DISABILITY ANY FURTHER. USE ONLY ONE NUMBER, i.e., DISABILITY IN COLUMN 132. IF RESPONDENT HAS "NO DISABILITY", RECORD 9 UNDER COLUMN 132 AND SKIP TO QUESTION 134.

ASK QUESTION 133 ONLY IF RESPONDENT HAS INDICATED SOME DEGREE OF DISABILITY IN QUESTION 132. DO NOT ASK IF THERE IS "NO DISABILITY"(9). ASK THE QUESTION AS WRITTEN AND RECORD BY NUMBER CORRESPONDING TO LENGTH OF DISABILITY IN COLUMN 133, OPPOSITE CONDITION BEING PROBED.

122. DIAGNOSIS

Have you been told by a doctor that you now have or have had any of the following conditions during the past two years?

1. Heart disease
2. High blood pressure
3. Stroke
4. Arthritis or rheumatism
5. Stomach or bowel trouble
6. Gall bladder trouble
7. Diabetes
8. Cancer (any kind)
9. Anemia (any kind)
10. Fractured hip
11. Other fracture
12. Prostate trouble (ask men only)
13. Female trouble (ask women only)
14. Kidney or bladder trouble
15. Asthma
16. Bronchitis
17. Tuberculosis
18. Paralysis agitans(Parkinson's disease)
19. Multiple sclerosis
20. Rupture or hernia
21. Mental illness

Have you had

22. An accident) Describe.____________
23. An operation)

TREATMENT

123. Have you been treated for this condition by a private medical doctor in the past two years? 1. YES 2. NO 3. D.K.

124. Have you been treated by an osteopath, chiropractor, or other practitioner for this condition during the past two years? 1. YES 2. NO 3. D.K.

125. Have you been a patient in a hospital for this condition in the past two years? 1. YES 2. NO 3. D.K.

TABLE I

122	123	124	125	126	127	128	129	130	131	132	133

TREATMENT (Continued)

126. Have you been to a public or private clinic for this condition in the past two years? 1. YES 2. NO 3. D.K.

127. Have you been treated in a nursing home for this condition in the past two years? 1. YES 2. NO 3. D.K.

128. Have you had a full time nurse or nursing care in your home for this condition in the past two years? 1. YES 2. NO 3. D.K.

129. Have you had a visit or visits from the visiting nurse for this condition in the past two years? 1. YES 2. NO 3. D.K.

130. Is this condition under treatment now? 1. YES 2. NO 3. D.K.

DEGREE OF DISABILITY

131. Does this bother you enough now to confine you -
(1) to bed?
(2) to chair?
(3) to the house?
(4) NO CONFINEMENT

132. Does this now keep you from-
(1) feeding yourself?
(2) dressing yourself?
(3) going to the bathroom?
(4) walking outside?
(5) doing ordinary housework?
(6) climbing steps or stairs?
(7) going shopping?
(8) gardening
(9) NO DISABILITY (SKIP TO Q. 134)

DURATION OF DISABILITY

133. How long has this condition caused this much disability?
(1) 1 WEEK OR LESS
(2) 2 OR 3 WEEKS
(3) 4 TO 8 WEEKS
(4) 3 TO 4 MONTHS
(5) 5 TO 6 MONTHS
(6) 7 MONTHS TO 1 YEAR
(7) BETWEEN 1 AND 2 YEARS
(8) 2 YEARS OR MORE

---

134. Do you have any other condition or trouble now that has not been mentioned or discussed?

1______YES
2______NO (SKIP TO Q. 137)

135. A. What is it? (WHAT CONDITION OR TROUBLE BOTHERS R NOW?)
DESCRIBE: ________________________

B. Is this condition being cared for by a doctor?

1______YES (SKIP TO Q. 137)
2______NO

136. Why is it that you don't have this condition or trouble looked after? RECORD ANY REASONS OR RESPONSE BELOW AND USE PROBE QUESTIONS IF THEY ARE NOT ALREADY ANSWERED.

1______Do you think it is not important?
2______Do you feel nothing can be done about it?
3______Treatment hasn't helped
4______It might cost too much
5______Other: ________________________

137. Do you think it's a good idea to have a regular thorough check-up by a doctor even when you think there is nothing wrong?

1______YES
2______NO (SKIP TO Q. 141)

138. Do you have a check-up regularly?

1______YES
2______NO (SKIP TO Q. 140)

139. How often do you have such an examination?

1______EVERY SIX MONTHS)
2______ONCE A YEAR) (SKIP TO QUESTION 141)
3______EVERY TWO YEARS)

140. Can you tell me why you don't have a physical check-up regularly?

1______DON'T HAVE A REGULAR DOCTOR
2______DON'T KNOW ANY DOCTOR
3______CAN'T AFFORD IT AT ANY PRICE
4______AFRAID TO GO
5______COSTS TOO MUCH
6______OTHER: ________________________
____

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TABLE II

Q. 145. We would like to know the use you have made of the following health services during the past two years?

ASK THE QUESTIONS BELOW, 1 THROUGH 11, WHICH REPRESENT COMMON HEALTH SERVICES AVAILABLE IN A COMMUNITY. RECORD RESPONSE UNDER COLUMN 145, "YES" OR "NO". IF RESPONSE IS "YES", I.E., HAS USED SERVICE DURING THE PAST TWO YEARS, PROBE WITH QUESTIONS 146 THROUGH 150, RECORDING IN PROPER CHECK BOX, CORRESPONDING TO SERVICE (1-11) BEING PROBED. IF RESPONSE IS "NO" PROBE WITH QUESTIONS 149 AND 150. CONTINUE QUESTION 145, 1 THROUGH 11, PROBING EACH "YES" RESPONSE, 146 THROUGH 150 AND EACH "NO" RESPONSE WITH QUESTIONS 149 AND 150 AS THEY OCCUR.

1. Have you used the services of a medical doctor?
2. Have you used the services of an osteopath?
3. Have you used the services of a chiropractor or other practitioner?
4. Have you been treated at a public or private clinic?
5. Have you been in a hospital for medical or surgical care?
6. Have you been in a nursing or convalescent home for care?
7. Have you had the "visiting nurse" come to your home?
8. Have you had a full time nurse at home?
9. Have you had a housekeeper at home?
10. Have you had laboratory tests or X-rays done?
11. Have you had to take any medicines or drugs?

PROBE QUESTIONS 146 THROUGH 151

Q. 146. How many times did you use this service?
RECORD UNDER COLUMN 146, OPPOSITE SERVICE BEING PROBED.
FOR HOSPITAL (#5) ASK: How many days were you in the hospital?
FOR NURSING HOME (#6) ASK: How many months were you in a nursing home?
FOR FULL-TIME NURSE (#8) AND HOUSEKEEPER (#9) ASK: How many weeks did you have this service?
FOR MEDICINE AND DRUGS (#11) ASK:
Do you take any medicines or drugs-
1. Daily
2. Weekly
3. Rarely
4. Only when ill

Q. 147. What was the cost of this service?
RECORD IN COLUMN 147. THIS MAY BE AN APPROXIMATION BUT IS IMPORTANT.
FOR MEDICINE AND DRUGS (#11) A MONTHLY AVERAGE MAY BE NECESSARY - IF SO INDICATE: e.g., $10.00 PER MONTH.

Q. 148. Was this service or treatment satisfactory?
RECORD IN COLUMN 148. OMIT FOR LABORATORY TESTS AND X-RAYS (#10) AND MEDICINE AND DRUGS (#11).

Q. 149. Did you need this service at any time (i.e., doctor, hospital, etc.) but did not have it for any reason?
RECORD IN COLUMN 149. IF RESPONSE IS "YES", PROBE FOR REASON WITH QUESTION 150 BELOW.

Q. 150. Why didn't you have this service? (i.e., doctor, hospital, etc.)
1. DIDN'T KNOW IT WAS AVAILABLE
2. COULDN'T AFFORD IT
3. THOUGHT IT MIGHT COST TOO MUCH
4. OTHER: (EXPLAIN UNDER COMMENTS)
RECORD IN COLUMN 150 BY PROPER NUMBER 1 THROUGH 4.

Q. 151. FOR EDITOR'S USE ONLY. SKIP TO Q. 152.

---

141. Do you have a physician in the City or County who regularly takes care of your illnesses?

1____YES (SKIP TO Q. 145, TABLE II)
2____NO

142. Why is that? (WHY DON'T YOU HAVE A REGULAR PHYSICIAN?)
(CHECK ALL REASONS MENTIONED)

1____NOT ENOUGH MONEY
2____TOO EXPENSIVE
3____I'M NEVER SICK ENOUGH
4____DON'T LIKE DOCTORS
5____IT ISN'T IMPORTANT
6____I'LL GET ONE WHEN NECESSARY
7____OTHER ________________________

143. Do you have a physician in another community who takes care of you?

1____YES
2____NO (SKIP TO Q. 145, TABLE II)

144. Where is that? (WHAT COMMUNITY DOES THAT DOCTOR LIVE IN?)

____

152. Do you have hospital insurance?

1____YES
2____NO (SKIP TO Q. 158)

153. What company or organization do you have your insurance with?

1____BLUE CROSS
2____COMMERCIAL COMPANY
GIVE NAME, IF POSSIBLE: ______________________

154. How long have you had this or other hospital insurance continuously? ___ years
(INTERVIEWER TO RECORD AGE OF RESPONDENT WHEN HE FIRST OBTAINED HOSPITAL INSURANCE.)

AGE
_____YEARS

155. Have you ever used or received any payments or benefits from your hospital insurance?

1____YES
2____NO

156. Have the benefits or allowances for your hospital insurance been altered or changed because of your age?

1____YES)
2____NO) (SKIP TO Q. 161)
3____DON'T KNOW)

157. How was this? (That is, what changes were made?)

1____BENEFITS REDUCED
2____CERTAIN ILLNESSES EXCLUDED
3____MADE CANCELLABLE
4____MADE NON-RENEWABLE
5____PREMIUM INCREASED
6____OTHER ______________________
7____DON'T KNOW

(SKIP TO Q. 161)

158. Have you ever had hospital insurance?

1____YES
2____NO (SKIP TO Q. 160)

159. Why did you give up this hospital insurance?

1____CANCELLED ON SEPARATION FROM EMPLOYMENT
2____CANCELLED BECAUSE OF AGE
3____EXCLUSION OF CERTAIN CONDITIONS
4____TOO EXPENSIVE
5____DIDN'T THINK IT NECESSARY
6____NO PARTICULAR REASON
7____OTHER: (DESCRIBE) ______________________

(SKIP TO Q. 161)

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TABLE II

Q. 145 Have you used any of the following services? (SEE QUESTIONS PAGE 19)	145 Used the 2 Yr 1.YES		r	Code	147 Cost	Code	148 Entitled 1.YES	2.NO	149 Needed But Did Not Have 1.YES	2.NO	150 Why Did Not Have?	Comments
1. Private medical doctor												
2. Osteopath												
3. Chiropractor or other												
4. Public or private clinic												
5. Hospital												
6. Nursing home												
7. Visiting nurse												
8. Full-time nurse at home												
9. Housekeeper												
10. Laboratory tests & X-rays												
11. Medicine and drugs												

(DO NOT USE THIS SPACE)

151. Total Cost $______ Code

(EDITOR ONLY)

160. Why is it that you have never had hospital insurance?

1 ____ NEVER BELONGED TO A GROUP WHERE IT WAS AVAILABLE
2 ____ SEEMED TOO EXPENSIVE
3 ____ NEVER SICK
4 ____ DON'T BELIEVE IN INSURANCE
5 ____ COULDN'T AFFORD IT
6 ____ JUST TOOK A CHANCE
7 ____ OTHER ____________

161. Do you have any health insurance that pays all or part of your medical care?

1 ____ YES
2 ____ NO (SKIP TO Q. 163)

162. What does this pay benefits or allowances for?

1 ____ Surgical operations
2 ____ Anesthetic
3 ____ Medical care, such as housecalls or visits to the doctor
4 ____ Special nurses
5 ____ Emergency room use
6 ____ X-rays
7 ____ Drugs
8 ____ Other ____________
9 ____ DON'T KNOW

163. How much of the time does your health worry you --all the time, most of the time, only sometimes or never?

1 ____ ALL OF THE TIME
2 ____ MOST OF THE TIME
3 ____ ONLY SOMETIMES
4 ____ NEVER (SKIP TO Q. 166)

164. When you worry about your health, what is it that you think about and concerns you most?

(CHECK ALL MENTIONED)

1 ____ FEAR OF LONG ILLNESS
2 ____ FEAR OF DISABLING OR CRIPPLING ILLNESS
3 ____ FEAR OF DEATH
4 ____ CONCERN FOR WIFE (OR HUSBAND)
5 ____ FEAR OF SERIOUS ILLNESS WHILE ALONE
6 ____ WHO WILL TAKE CARE OF ME
7 ____ HOW WILL I MEET THE COST
8 ____ HAVE NO MONEY FOR MEDICAL CARE OR HOSPITAL
9 ____ WHOM I WILL CALL
10 ____ NONE OF THESE
11 ____ OTHER ____________
12 ____ DON'T KNOW

165. When you think about illness or sickness, which worries you the most, the illness or how you are going to pay for it?

1 ____ THE ILLNESS
2 ____ HOW TO PAY FOR IT
3 ____ DON'T KNOW

166. Suppose you were faced by a medical or hospital bill of $500.00, what would you do?

1 ____ COULDN'T PAY IT
2 ____ WOULD BORROW MONEY
3 ____ MY FAMILY WOULD HELP (SON, SISTER, ETC.)
4 ____ SELL HOUSE, STOCK OR OTHER ASSET
5 ____ FROM INCOME
6 ____ FROM SAVINGS
7 ____ HEALTH OR HOSPITAL INSURANCE
8 ____ OTHER ____________
9 ____ DON'T KNOW

167. If you were suddenly taken very sick, where would you turn for help?

1 ____ PRIVATE DOCTOR
2 ____ FRIEND
3 ____ RELATIVE
4 ____ NEIGHBOR
5 ____ DRUGGIST
6 ____ CLERGYMAN
7 ____ CLINIC OR HOSPITAL
8 ____ POLICE
9 ____ OTHER ____________
10 ____ DON'T KNOW

168. If voluntary health and hospital insurance was available that would take care of all your medical needs, do you think that you would buy or obtain this protection against the cost of medical care, if it could be provided at a cost that you could afford?

1 ____ YES
2 ____ NO (SKIP TO Q. 170)
3 ____ DON'T KNOW (SKIP TO Q. 170)

169. What would you consider reasonable or what you could afford for this insurance each month?

1 ____ COULDN'T AFFORD IT
2 ____ LESS THAN $5.00
3 ____ $5.00 to $9.00
4 ____ $10.00 to $14.00
5 ____ $15.00 to $20.00
6 ____ MORE THAN $20.00
7 ____ DON'T KNOW

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170. If there were a health center where -

(1) Older people could be tested periodically for many of the illnesses and conditions common to them,
(2) Limited advice and counselling could be given
(3) Referral to your own physician could be made if desired for further diagnosis and treatment -

would you use this service?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW

171. Have you ever been so worried, nervous or emotionally upset that you consulted a doctor?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW   SKIP TO Q. 17)

172. At this time were you able to carry on your usual activities?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW

173. Have you ever had a nervous breakdown?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW

174. Were you ever treated in a hospital or sanitarium for a nervous or mental illness?

1 ____ YES
2 ____ NO (SKIP TO Q. 176)

175. When was that?

Dates: From ________ to ________ (APPROXIMATELY)

Now we would like to ask some questions about living costs. Because of various economic factors, there has been considerable discussion about the ability of older people to meet the costs of essential health needs and living expenses. The list I am going to read mentions certain of these essential health services and ordinary living expenses. We would like to know if you feel that you are financially able to properly and adequately provide these for yourself and/or family at this time.

176. Would you mind telling me if you feel that you are unable to adequately provide any of the following
(CHECK ONLY THOSE THAT R FEELS HE IS UNABLE TO PROVIDE)

1 ____ Doctor's services
2 ____ Hospital care
3 ____ Nursing home or convalescent home care
4 ____ Medicines or drugs
5 ____ Appliances (Dentures, hearing aids, etc.)
6 ____ Proper housing
7 ____ Utilities - heat, power, telephone, water and sewage
8 ____ Adequate food
9 ____ Proper clothing
10 ____ Recreation, entertainment, essential travel
11 ____ Other ____________
12 ____ NONE

177. Financially, do you think you are better off, worse off, or about as well off as your friends and associates of your age?

1 ____ BETTER OFF
2 ____ WORSE OFF
3 ____ ABOUT AS WELL OFF
4 ____ DON'T KNOW

178. Are you working in paid employment now?

1 ____ YES
2 ____ NO (SKIP TO Q. 181, ASK WOMEN ONLY.
MEN, - SKIP TO Q. 182)

179. What do you do? ____________

180. Do you work full time or part time?

1 ____ FULL TIME
2 ____ PART TIME

ASK WOMEN ONLY

181. Do you keep house?

1 ____ YES
2 ____ NO

182. Have you ever been officially retired?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW

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183. Do you consider yourself retired now?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW (SKIP TO Q. 193)

184. When did you retire? ____ YEAR How old were you then? ____ AGE

185. Why did you retire - was it voluntary, or because of ill health, or because your company retires everybody at a certain age?

1 ____ VOLUNTARY (ASK Q. 186 - VOLUNTARY - AND SKIP TO Q. 189)
2 ____ HEALTH (ASK Q. 187 - HEALTH - AND SKIP TO Q. 189)
3 ____ COMPANY POLICY (SKIP TO Q. 188 - COMPANY POLICY)
4 ____ OTHER (SPECIFY) ____________

186. VOLUNTARY - What were your main reasons for retiring? (CHECK ALL ANSWERS, CIRCLE ONE MOST IMPORTANT ONE)

1 ____ WANTED TO HAVE TIME FOR (MORE LEISURE)
2 ____ WORK WAS TOO STRENUOUS
3 ____ MY JOB WAS DISCONTINUED AND DIDN'T WANT TO TRANSFER
4 ____ UNABLE TO FIND WORK AT ORDINARY OCCUPATION OR TRADE
5 ____ OTHER (SPECIFY) ____________

187. HEALTH - Was your decision to stop work or did your employer require you to stop?

1 ____ MY DECISION
2 ____ EMPLOYER'S DECISION
3 ____ JOINT DECISION

188. COMPANY POLICY - At the time of retirement were you in good health? That is, well enough that you could and would have preferred to go on working for several years.

1 ____ YES
2 ____ NO

189. What is (or was) your principal or career occupation - that is, the kind of work you have done most of your life?

____

(IF R IS WIDOWED, SKIP TO Q. 193 | IF SINGLE, SKIP TO Q. 193)

190. Does your husband (wife) work?

1 ____ YES
2 ____ NO (SKIP TO Q. 192)

191. What type of work does he (she) do? ____________

192. What is (or was) his (her) principal or career occupation - that is, the kind of work he (she) has done most of his (her) life?

____

We know that with many retired and older people, the problem of increasing living costs and adequate income to meet these everyday necessities may become pressing and serious. We would like to go into this problem further, because the success of this health study and the future planning necessary to meet the health needs of our senior citizens is closely related to economics and income.

I want to emphasize again that any information you give is completely confidential. As soon as this interview is completed, your identification is destroyed and the questionnaire will be identified by number only. It will be one of thousands and the information used only as statistics.

GIVE RESPONDENT THE "GREEN"CARD WITH THE FOUR BOXES AS BELOW. ASK HIM TO FILL IN AS ACCURATELY AS POSSIBLE. BE SURE THAT IT IS NUMBERED THE SAME AS SCHEDULE. AFTER INTERVIEW BUT NOT IN THE RESPONDENT'S PRESENCE, TRANSFER INFORMATION ACCURATELY TO CORRECT SPACES BELOW. ATTACH CARD TO SCHEDULE. YOU MAY READ CARD TO RESPONDENT AND EXPLAIN OR ASSIST IF NECESSARY.

193. Check in the proper space below the approximate yearly money income of your family.

Less than $ 500 ____
More than $ 500 but less than $1000 ____
" " $1000 " " " $1500 ____
" " $1500 " " " $2000 ____
" " $2000 " " " $3000 ____
" " $3000 " " " $5000 ____
" " $5000 . . . . ____

194. In this space indicate by amount, percentage or fraction, the sources of your family income, by month.

MONTHLY INCOME

Source	Amount
Wages	$
Dividends and interest	
Pension and annuities	
Rentals and leases	
Social security	
State welfare	
County welfare	
Relative or friend	
Total	
Total X 12	
	(yearly Income)

195. In addition to yearly or monthly income, would you check your other assets with approximate value.

ITEM	VALUE
House and furnishings	$
Other real estate	
Car	
Stocks and bonds	
Mortgage notes	
Business	
Other	
Total	

196. If you are living with relatives or friends, do they contribute to your living expenses in other ways?

1 ____ YES ____ Room
____ Meals
____ Clothes
____ Travel
____ Spending money
____ Entertainment
____ Other ____________
2 ____ NO
3 ____ DON'T KNOW

197. Do you know or could you estimate approximately what your (or your family's) living expenses are for one month?

$ ____________

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INTERVIEWER'S IMPRESSIONS

198. OF RESPONDENT

(1) Activity
____Normally active
____Confined to house
____Confined to wheelchair
____Confined to bed

(2) Walking
____Normal
____With cane or walker
____With Assistance

(3) Appearance
____Neat
____Fairly Neat
____Untidy
____Dirty

(4) Gait
____Normal
____Shuffling
____Limping
____Halting or Unsteady

(5) Comprehension
____Quick and correct
____Slow but correct
____Slow and sometimes confused
____Quick but often not correct
____Barely able to follow

(6) Nutrition
____Normal
____Underweight
____Overweight

(7) Interest
____Marked interest
____Mild interest
____Inattention
____Apathy

(8) Attitude
____Friendly and cooperative
____Indecisive
____Confused
____Suspicious
____Hostile

(9) Physical Appearance
____Healthy
____Infirm
____Obviously ill

(10) Hearing Loss
____None apparent
____Moderate
____Almost complete

(11) Speech
____Normal
____Slow or hesitant
____Difficult or mumbling

199. OF HOUSING AND LIVING ACCOMMODATIONS

(1) Neighborhood
____Mostly new
____Mixed (old & new)
____Mostly old

(2) House or Apartment Building
____New
____Average age
____Old

(3) Maintenance of House or Apartment
____Good repair
____Average
____Delapidated

(4) Maintenance of Grounds
____Well kept and neat
____Average care
____Poor to no care

(5) Furnishings
____New or good condition
____Average and adequate
____Old and worn

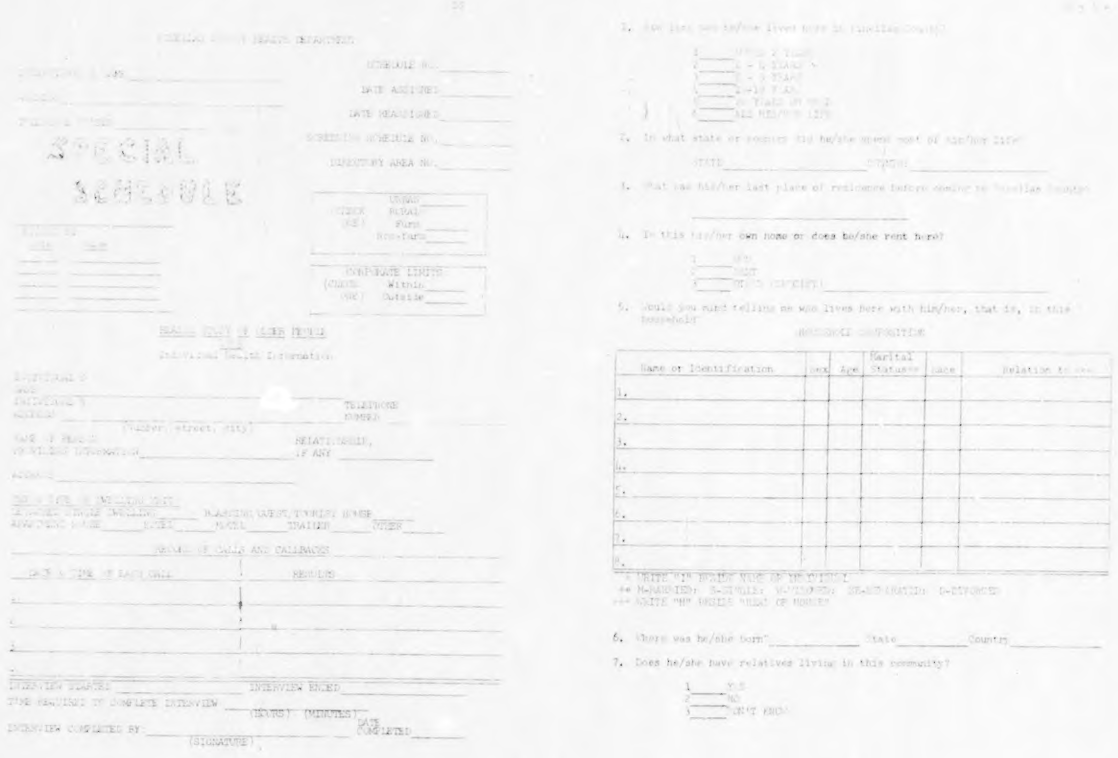
(6) Housekeeping and Interior
____Clean and orderly
____Clean but cluttered
____Cluttered and dirty

(7) Would you give your impression of the value of this dwelling?
____Under $10,000
____$10,000 to $20,000
____Over $20,000

(8) For motels, hotels, apartment houses, guest homes, tourist homes, boarding homes and trailer courts, would you describe this living accommodation as -
____Luxurious
____Very good
____Average
____Fair
____Poor

Appendix C

The Special Schedule



PINELLAS COUNTY HEALTH DEPARTMENT

INTERVIEWER'S NAME________

ADDRESS________

TELEPHONE NUMBER________

SPECIAL SCHEDULE

SCHEDULE NO.________

DATE ASSIGNED________

DATE REASSIGNED________

SCREENING SCHEDULE NO.________

DIRECTORY AREA NO.________

[illegible]
[illegible] [illegible]

(CHECK ONE) URBAN____ RURAL: Farm____ Non-Farm____

CORPORATE LIMITS (CHECK ONE) Within____ Outside____

HEALTH STUDY OF OLDER PEOPLE

Individual Health Information

INDIVIDUAL'S NAME________

INDIVIDUAL'S ADDRESS________ (number, street, city) TELEPHONE NUMBER____

NAME OF PERSON PROVIDING INFORMATION________ RELATIONSHIP, IF ANY____

ADDRESS________

CHECK TYPE OF DWELLING UNIT:
DETACHED SINGLE DWELLING____ BOARDING/GUEST/TOURIST HOME____
APARTMENT HOUSE____ HOTEL____ MOTEL____ TRAILER____ OTHER____

RECORD OF CALLS AND CALLBACKS

DATE & TIME OF EACH CALL	RESULTS
1.	
2.	
3.	
4.	

INTERVIEW STARTED________ INTERVIEW ENDED________

TIME REQUIRED TO COMPLETE INTERVIEW____ (HOURS) (MINUTES)

INTERVIEW COMPLETED BY________ (SIGNATURE) DATE COMPLETED____

1. How long has he/she lived here in Pinellas County?

   1____ UNDER 2 YEARS
   2____ 2 - 4 YEARS
   3____ 5 - 9 YEARS
   4____ 10-19 YEARS
   5____ 20 YEARS OR MORE
   6____ ALL HIS/HER LIFE

2. In what state or country did he/she spend most of his/her life?

   STATE________ COUNTRY________

3. What was his/her last place of residence before coming to Pinellas County?

   ____

4. Is this his/her own home or does he/she rent here?

   1____ OWN
   2____ RENT
   3____ OTHER (SPECIFY)________

5. Would you mind telling me who lives here with him/her, that is, in this household?

HOUSEHOLD COMPOSITION

Name or Identification	Sex	Age	Marital Status**	Race	Relation to ***
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

* WRITE "I" BESIDE NAME OF INDIVIDUAL
** M-MARRIED; S-SINGLE; W-WIDOWED; SE-SEPARATED; D-DIVORCED
*** WRITE "H" BESIDE "HEAD OF HOUSE"

6. Where was he/she born?________ State________ Country________

7. Does he/she have relatives living in this community?

   1____ YES
   2____ NO
   3____ DON'T KNOW

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8. Has he/she any close friends in this community that he/she would depend upon in time of need?

1_____YES
2_____NO
3_____DON'T KNOW

9. Do you know what his/her religious preference is?

1_____JEWISH
2_____CATHOLIC
3_____PROTESTANT - SPECIFY DENOMINATION_____
4_____OTHER
5_____NONE
6_____DON'T KNOW

10. Does he/she have his own teeth or does he/she use false teeth?

1_____OWN TEETH
2_____FALSE TEETH
3_____DON'T KNOW

11. Has he/she any trouble with his/her eyes or any difficulty with his/her vision?

1_____YES
2_____NO
3_____DON'T KNOW } SKIP TO Q. 13

12. What kind of trouble does he/she have with his/her eyes or vision?

([illegible] IF THERE IS LOSS OF VISION IN ONE OR OTHER EYE [illegible] i.e., [illegible], ETC.)

____

____

____

13. Has he/she any loss of hearing or deafness?

1_____YES
2_____NO } SKIP TO Q. 15
3_____DON'T KNOW)

14. Does the loss of hearing or deafness seem to be slight, moderate or almost complete?

1_____SLIGHT
2_____MODERATE
3_____ALMOST COMPLETE
4_____DON'T KNOW

15. Can you tell me what his/her trouble or condition is at the present time?

(LIST THE PRIMARY OR MOST IMPORTANT DIAGNOSIS FIRST AND THEN ANY CONTRIBUTORY OR SECONDARY CAUSES. IF THIS IS NOT OBVIOUS LIST AND ORDER IN THE ORDER THAT SEEMS TO YOU MOST IMPORTANT.)

MOST IMPORTANT OR PRIMARY DIAGNOSIS____________________

CONTRIBUTORY OR SECONDARY CAUSES____________________

____

____

16. Is he/she now under the care of a medical doctor, osteopath, chiropractor, someone other than these or not under care?

1_____MEDICAL DOCTOR
2_____OSTEOPATH
3_____CHIROPRACTOR
4_____OTHER (SPECIFY)____________________
5_____DON'T KNOW
(IF ONE OF THE ABOVE RESPONSES SKIP TO Q. 18)
6_____NOT UNDER CARE

17. Could you tell me why he/she is not under some kind of medical care?

(CHECK ALL MENTIONED)
1_____HAS NO DOCTOR
2_____DOESN'T KNOW ANY DOCTOR
3_____CAN'T AFFORD MEDICAL CARE
4_____DOCTOR COMES WHEN CALLED
5_____TREATMENT ISN'T NECESSARY
6_____TREATMENT DOESN'T HELP ANYMORE
7_____OTHER____________________

18. Does this trouble or illness confine him/her.-

1_____To the house?) SKIP TO Q. 20
2_____To a chair?)
3_____To his bed?
4_____DON'T KNOW

20. Is he/she.-

1_____Able to walk unassisted and without help?
2_____Able to walk with assistance?
3_____Not able to walk?
4_____DON'T KNOW

21. Does his/her mental condition seem to be.-

1_____Clear?
2_____Sometimes confused?
3_____Completely confused?
4_____DON'T KNOW

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TABLE I (SPECIAL SCHEDULE)

THIS TABLE IS ALMOST THE SAME AS TABLE II OF THE REGULAR SCHEDULE. THE IMPORTANT DIFFERENCE IS THAT IT IS BEING ASKED OF A THIRD PERSON. FOR THIS REASON A "DON'T KNOW" OR "DK" COLUMN HAS BEEN ADDED. RECORD AS DIRECTED FOR "YES","NO",OR "DK" RESPONSES UNDER PROPER COLUMN.

Q. 25. We would like to know the use he/she has made of the following health services during the past two years?

ASK THE QUESTIONS BELOW, 1 THROUGH 11., WHICH REPRESENT COMMON HEALTH SERVICES AVAILABLE IN A COMMUNITY. RECORD RESPONSE UNDER COLUMN 25,"YES", "NO"OR "DK". IF RESPONSE IS "YES", I.E., HAS USED SERVICE DURING THE PAST TWO YEARS, PROBE WITH QUESTIONS 26 THROUGH 30, RECORDING IN PROPER CHECK BOX, CORRESPONDING TO SERVICE (1-11) BEING PROBED. IF RESPONSE IS "NO" PROBE WITH QUESTIONS 29 AND 30. DO NOT PROBE "DK" RESPONSE. CONTINUE QUESTION 25, 1 THROUGH 11, PROBING EACH "YES" RESPONSE, 26 THROUGH 30 AND EACH "NO" RESPONSE WITH QUESTIONS 29 AND 30 AS THEY OCCUR.

1. Has he/she used the services of a medical doctor?

2. Has he/she used the services of an osteopath?

3. Has he/she used the services of a chiropractor or other practitioner?

4. Has he/she been treated at a public or private clinic?

5. Has he/she been in a hospital for medical or surgical care?

6. Has he/she been in a nursing or convalescent home for care?
7. Has he/she had the "visiting nurse"come to his/her home?
8. Has he/she had a full time nurse at home?
9. Has he/she had a housekeeper at home?
10. Has he/she had laboratory tests or X-rays done?
11. Has he/she had to take any medicines or drugs?

Q. 31. FOR EDITOR'S USE ONLY. SKIP TO Q. 32

PROBE QUESTIONS 26 THROUGH 31

Q. 26. How many times did he/she use this service?
RECORD UNDER COLUMN 26, OPPOSITE SERVICE BEING PROBED.
FOR HOSPITAL (#5) ASK: How many days was he/she in the hospital?
FOR NURSING HOME (#6) ASK: How many months was he/she in a nursing home?
FOR FULL-TIME NURSE (#8) AND HOUSEKEEPER (#9) ASK:
How many weeks did he/she have this service?
FOR MEDICINE AND DRUGS (#11) ASK:
Does he/she take any medicines or drugs-
1. Daily
2. Weekly
3. Rarely
4. Only when ill

Q.27. What was the cost of this service?
RECORD IN COLUMN 27. THIS MAY BE AN APPROXIMATION BUT IS IMPORTANT.
FOR MEDICINE AND DRUGS (#11) A MONTHLY AVERAGE MAY BE NECESSARY - IF SO INDICATE: e.g., $10.00 PER MONTH.

Q. 28. Was this service or treatment satisfactory?
RECORD IN COLUMN 28. OMIT FOR LABORATORY TESTS AND X-RAYS (#10) AND MEDICINE AND DRUGS (#11).

Q. 29. Did he/she need this service at any time (i.e., doctor, hospital, etc.) but did not have it for any reason?
RECORD IN COLUMN 29. IF RESPONSE IS "YES", PROBE FOR REASON WITH QUESTION 30 BELOW.

Q. 30. Why didn't he/she have this service?(i.e.,doctor, hospital, etc.)
1. DIDN'T KNOW IT WAS AVAILABLE
2. COULDN'T AFFORD IT
3. THOUGHT IT MIGHT COST TOO MUCH
4. OTHER: (EXPLAIN UNDER COMMENTS)
5. DON'T KNOW

RECORD IN COLUMN 30 BY PROPER NUMBER 1 THROUGH 4.

---

22. Do you know about his/her bladder and bowel control?
Are they -

1 ________Both controlled?
2 ________Bladder not controlled?
3 ________Bowels not controlled?
4 ________Both bladder and bowels not controlled?
5 ________DON'T KNOW

23. Is he/she able to,-

1 ________Feed his/her self?
2 ________Dress his/her self?
3 ________Go to the bathroom his/her self?
4 ________NONE OF THESE

24. How long has this condition caused this much disability?

1 ________1 WEEK OR LESS
2 ________2 TO 3 WEEKS
3 ________4 TO [illegible] WEEKS
4 ________2 TO 4 MONTHS
5 ________5 TO 6 MONTHS
6 ________7 MONTHS TO 1 YEAR
________BETWEEN 1 AND 2 YEARS
________2 YEARS OR MORE

32. Does he/she have hospital insurance?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW

33. Has he/she ever had to be treated in a hospital or sanitarium for a nervous or mental illness?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW } SKIP TO Q. 35

34. When was that?

DATES: FROM ______________ TO ______________ (APPROXIMATELY)
________ DON'T KNOW

35. Has he/she been officially retired?

1 ____ YES (SKIP TO Q. 37)
2 ____ NO
3 ____ DON'T KNOW

36. Do you consider him/her retired?

1 ____ YES
2 ____ NO
3 ____ DON'T KNOW } SKIP TO Q.38

37. What was his/her age at retirement? ______ AGE
______ DON'T KNOW

38. What is (or was) his/her principal or career occupation - that is, the kind of work he/she did most of his/her life?

____

____

__________ DON'T KNOW

(ASK Q. 39 OF WIDOWS AND MARRIED WOMEN ONLY)

39. What is (or was) her husband's principal or career occupation - that is, the kind of work he did most of his life?

____

__________ DON'T KNOW

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TABLE I

Q. 25 Has he/she used any of the following services? (SEE QUESTIONS PAGE 19)	25 Used Past 2 Years			26 Number of Times, etc.		Code	27 Cost		Code	28 Satisfied			29 Needed But Did Not Have			30 Why Did Not Have?	Comments
	1. YES	2. NO	3. DK	NO.	DK		AMT.	DK		1. YES	2. NO	3. DK	1. YES	2. NO	3. DK		
1. Private medical doctor																	
2. Osteopath																	
3. Chiropractor or other																	
4. Public or private clinic																	
5. Hospital																	
6. Nursing home																	
7. Visiting nurse																	
8. Full-time nurse at home																	
9. Housekeeper																	
10. Laboratory tests & X-rays																	
11. Medicine and drugs																	

(DO NOT USE THIS SPACE)

Q. 31	Total Cost $ ______	Code	(EDITOR ONLY)

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We know that with many retired and older people, the problem of increasing living costs and adequate income to meet these everyday necessities may become pressing and serious. We would like to go into this problem further, because the success of this health study and the future planning necessary to meet the health needs of our senior citizens is closely related to economics and income.

I want to emphasize again that any information you give is completely confidential. As soon as this interview is completed, the identification is destroyed and the questionnaire will be identified by number only. It will be one of thousands and the information used only as statistics.

GIVE PERSON ANSWERING QUESTIONS THE "GREEN"CARD WITH THE FIVE QUESTIONS AS BELOW. ASK HIM OR HER TO FILL IN AS ACCURATELY AS POSSIBLE. BE SURE THAT IT IS NUMBERED THE SAME AS SCHEDULE. AFTER INTERVIEW BUT NOT IN HIS OR HER PRESENCE, TRANSFER INFORMATION ACCURATELY TO CORRECT SPACES BELOW. NUMBER AND ATTACH CARD TO SCHEDULE. YOU MAY READ CARD TO PERSON ANSWERING AND EXPLAIN OR ASSIST IF NECESSARY.

40. Check in the proper space below the approximate yearly money income of his/her family.

Less than $ 500	___
More than $ 500 but less than $1000	___
" " $1000 " " " $1500	___
" " $1500 " " " $2000	___
" " $2000 " " " $3000	___
" " $3000 " " " $5000	___
" " $5000.	___

41. In this space indicate by amount, percentage or fraction, the sources of his/her family income, by month.

MONTHLY INCOME

Source	Amount
Wages	$ ______
Dividends and interest	______
Pension and annuities	______
Rentals and leases	______
Social security	______
State welfare	______
County welfare	______
Relative or friend	______
Total	______
Total X 12	______
	(yearly income)

42. In addition to yearly or monthly income, would you check his/her other assets with approximate value.

ITEM	VALUE
House and furnishings	$ ______
Other real estate	______
Car	______
Stocks and bonds	______
Mortgage notes	______
Business	______
Other	______
Total	______

43. If he/she is living with relatives or friends, do they contribute to his/her living expenses in other ways?

1 ___ YES
___ Room
___ Meals
___ Clothes
___ Travel
___ Spending Money
___ Entertainment
___ Other ______
2 ___ NO
3 ___ DON'T KNOW

44. Do you know or could you estimate approximately what his/her (or his/her family's) living expenses are for one month?
$ ______

INTERVIEWER'S IMPRESSIONS

45. OF INDIVIDUAL

(1) Activity
___ Normally active
___ Confined to house
___ Confined to wheelchair
___ Confined to bed

(2) Walking
___ Normal
___ With cane or walker
___ With assistance

(3) Appearance
___ Neat
___ Fairly neat
___ Untidy
___ Dirty

(4) Gait
___ Normal
___ Shuffling
___ Limping
___ Halting or Unsteady

(5) Comprehension
___ Quick and correct
___ Slow but correct
___ Slow and sometimes confused
___ Quick but often not correct
___ Barely able to follow

(6) Nutrition
___ Normal
___ Under-weight
___ Over-weight

(7) Interest
___ Marked interest
___ Mild interest
___ Inattention
___ Apathy

(8) Attitude
___ Friendly and cooperative
___ Indecisive
___ Confused
___ Suspicious
___ Hostile

(9) Physical Appearance
___ Healthy
___ Infirm
___ Obviously ill

(10) Hearing Loss
___ None apparent
___ Moderate
___ Almost complete

(11) Speech
___ Normal
___ Slow or hesitant
___ Difficult or mumbling

46. OF HOUSING AND LIVING ARRANGEMENTS

(1) Neighborhood
___ Mostly new
___ Mixed (old & new)
___ Mostly old

(2) House or Apartment Building
___ New
___ Average age
___ Old

(3) Maintenance of House or Apartment
___ Good repair
___ Average
___ Dilapidated

(4) Maintenance of Grounds
___ Well kept and neat
___ Average care
___ Poor to no care

(5) Furnishings
___ New or good condition
___ Average and adequate
___ Old and worn

(6) Housekeeping and Interior
___ Clean and orderly
___ Clean but cluttered
___ Cluttered and dirty

(7) Would you give your impression of the value of this dwelling?
___ Under $10,000
___ $10,000 to $20,000
___ Over $20,000

(8) For motels, hotels, apartment houses, guest homes, tourist homes, boarding homes and trailer courts, would you describe this living accommodation as -
___ Luxurious
___ Very good
___ Average
___ Fair
___ Poor

Appendix D

Standard Errors of Percentages or Rates

In any study in which a sample of the total is used as a base, a certain amount of chance variation or sampling error is found. That is, the estimates based on a sample usually differ to some extent from the results which would have been obtained had a complete enumeration, a census, been taken. The "standard error" is a statistical measure of this variation. The volume of statistics presented in the report is too great for calculations to be made for each percentage. However, the standard error table included in this appendix can be used to determine the approximate standard errors of the percentages or rates presented.

For a probability sample such as that used in the Household Survey of the Aged and in the National Health Survey, sampling reliability for any statistic from the sample(s) can be stated roughly as follows: A census would produce figures within one standard error of the sample estimate about two out of three times and within two standard errors about 19 out of 20 times. References to statistical significance in this report are based on this concept. To be significant at the .05 level, a difference would have to be about double the amount of the standard error in question.

When differences between two samples are being examined, the standard error of the difference is approximately the square root of the sum of the squares of each standard error considered separately. Thus in order to ascertain whether the difference between an HSA rate and a NHS rate is significant, the standard error of each rate would be determined and squared, the two squares summed and the square root of this figure obtained. A difference greater than two times this figure would occur by chance only one out of twenty times, or could be said to be significant at the .05 level of probability.

In the table presented here standard errors are calculated in terms of percentages or rates per 100. If standard errors for rates per 1,000 or per 10 are desired they may be obtained simply by multiplying or dividing both the rate and the standard error by a constant. (Multiply by 10 to obtain standard error for rates per 1,000 or divide by 10 to obtain standard error for rates per 10.)

The table in this appendix is carried only to a base of 500, since the amount of error in a sample larger than this is negligible. Additional computations can be derived by applying the formula for the standard error of a percentage or rate, i.e., standard error = $\frac{\sqrt{pq}}{n}$ when p is percentage, q = 1-p, and N is the size of the base.

Table D.1. Standard Errors of Percentages or Rates of The Sample Population

Base	Standard errors for percentage or rate of				
(Number of respondents)	2 or 98	5 or 95	10 or 90	25 or 75	50
25	2.8	4.4	6.0	8.7	10.0
50	2.0	3.1	4.3	6.1	7.0
75	1.6	2.5	3.4	5.0	5.7
100	1.4	2.2	3.0	4.3	5.0
125	1.3	2.0	2.7	3.9	4.5
150	1.1	1.7	2.3	3.4	3.9
175	1.1	1.7	2.3	3.3	3.8
200	1.0	1.5	2.1	3.1	3.5
225	0.9	1.4	2.0	2.9	3.3
250	0.9	1.4	1.9	2.7	3.2
275	0.8	1.3	1.8	2.6	3.0
300	0.8	1.3	1.7	2.5	2.9
325	0.8	1.2	1.7	2.4	2.8
350	0.7	1.2	1.6	2.3	2.7
375	0.7	1.1	1.6	2.2	2.6
400	0.7	1.1	1.5	2.2	2.5
425	0.7	1.1	1.5	2.1	2.4
450	0.6	1.0	1.4	2.0	2.3
475	0.6	1.0	1.4	2.0	2.3
500	0.6	1.0	1.3	1.9	2.2

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